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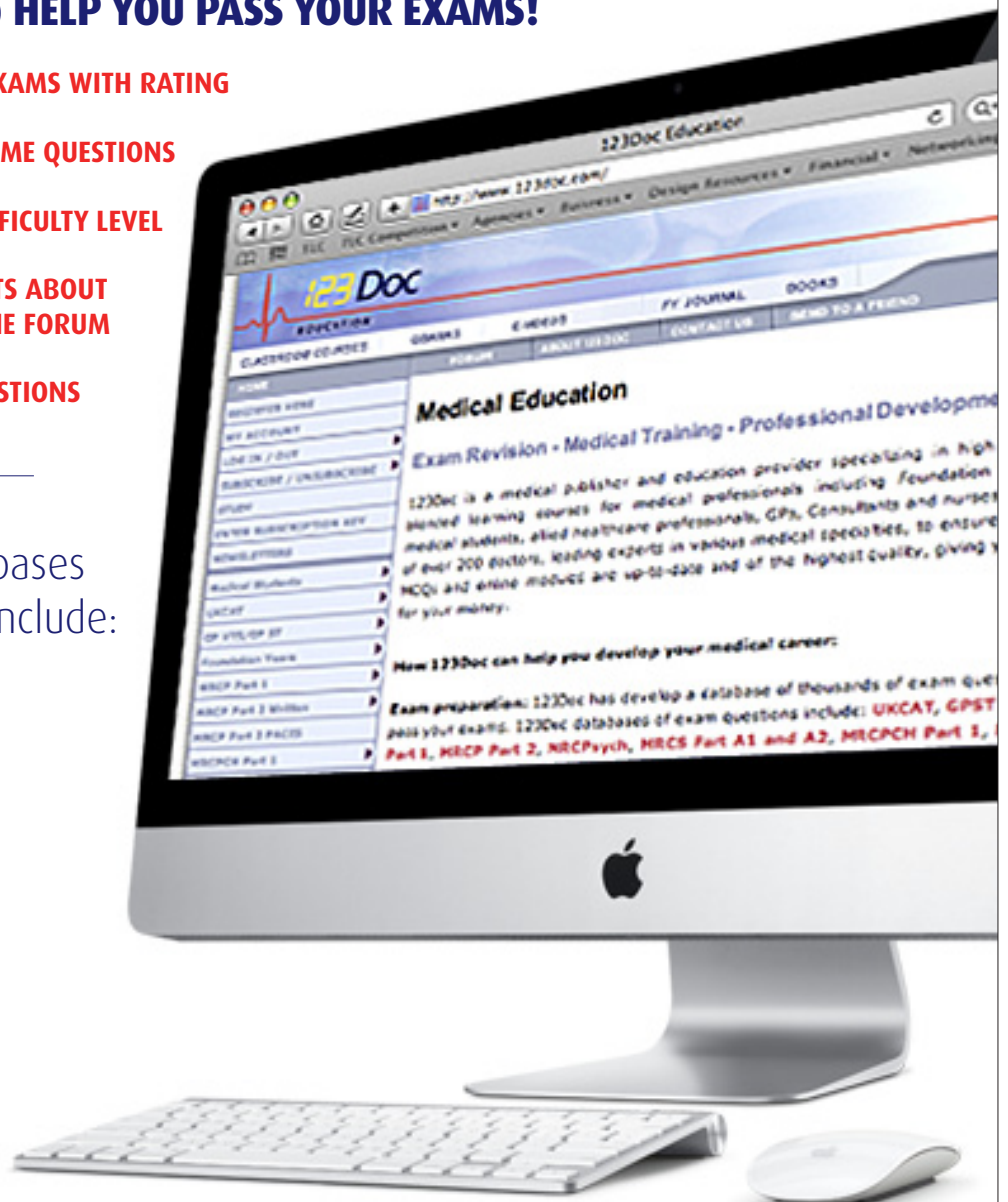
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ASSESSING & MANAGING RISK IN PSYCHIATRIC PRACTICE

E Hegazi, R Pap



Assessing & Managing Risk In Psychiatric Practice Good Clinical Care

Risk should be viewed as a range, continuum, low, medium or high. It should not be viewed as a dichotomy.

The focus of this article is on the two main areas of risk: risk to self and risk posed to others. Other risks associated with mental distress also include self-neglect, exploitation, abuse, and physical health deterioration.

Abstract

Risk assessment and management have a central role in good healthcare, and are integral to mental health practice. Many doctors are faced with this complex and challenging task on daily basis.

The importance of this clinical skill is highlighted by the fact that risk assessment and management are core competencies in the psychiatric training curriculum.

Risk level is unstable and fluctuates with time, symptoms, and situations. Therefore, risk assessment is an on-going process, rather than a one-time prediction.

While risk reduction in healthcare is often possible, the risks associated with mental disorders can be challenging and more difficult to manage. This is due the complexity of human motivation in the context of mental health problems, and also the dilemmas involved in balancing protection and autonomy.

Effective risk management is a collaborative and dynamic process that aims at reducing identified risks.

Definitions

First, some definitions are needed to ensure that we have a common understanding of the following terms:

- **Risk:** The nature, severity, imminence, frequency/duration and likelihood of harm to self or others. A hazard that is to be identified, measured, and ultimately, prevented (1).

- **Risk factors:** The variables used to predict risk. They are the characteristics associated with an increased likelihood that problem behaviour will occur.

- **Protective factor:** Any circumstance, event, factor or consideration with the capacity to prevent or reduce the severity or likelihood of harm to self or others (3).

- **High risk:** A term used of a service user who presents a risk of committing an act that is either planned or spontaneous, which is very likely to cause serious harm. There are few, if any, protective factors to mitigate or reduce that risk (2,3).

- **Low risk:** A term used of a service user who may have caused, attempted or threatened serious harm in the past but a repeat of such behaviour is not thought likely between now and the next scheduled risk assessment (2,3).

- **Medium risk:** A term used of a service user who is capable of causing serious harm but, in the most probable future scenarios, there are sufficient protective factors to moderate that risk (2,3).

- **Actuarial tests:** are statistical tools that use items that have been shown statistically to be related to risk.

Principles of risk assessment

• Risk assessment is a gateway to treatment and management. Therefore, comprehensive, reliable information is crucial for making any informed decision. Risk, however, cannot be eliminated entirely but can be minimised.

• Accurate prediction is never possible for individual patients. While it may be possible to reduce risk in some settings, the risks posed by those with mental disorders are much less susceptible to prediction because of the multiplicity of, and complex interrelation of, factors underlying a person's behaviour (4).

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- Also, assessing the risk of rare events, such as suicide and homicide, is likely to produce high false positive predictions.

- Approaches to risk assessment are generally clinical and actuarial.

1. *The actuarial approach is based on data collected from populations at risk and therefore, should be applied with caution with individual patients.*

2. *Structured clinical judgement is an approach that combines an assessment of research-derived factors, clinical experience, knowledge of the patient, and the patient's own view of their experience.*

- Tool-based assessments should be used as part of a comprehensive, structured, and multi-disciplinary clinical risk assessment. These tools should aid rather than replace clinical judgement (see Box 1)



Risk of suicide

SASDPERSONS

It assesses the presence or absence of ten risk factors for suicide. Risk management is indicated if certain cut-off scores are exceeded.

SIS (Suicidal Intent scale)

It assesses suicidal intent in persons who have attempted suicide. It has 15 items and no specific cut-off score. A positive answer to any question should raise concern.

Risk of violence

HCR-20 (Historical Clinical Risk 20)

A structured clinical judgment tool divided into three parts: historical factors, clinical factors, and risk management factors. HCR-20 is used in more specialized, forensic settings.

VRAG (violence risk appraisal guide)

It relies on historical factors and includes PCL-R (psychopathy checklist revised) as a subscale.

Box 1: Examples of risk assessment tools.

- A final risk rating is ultimately a coherent and structured clinical judgement, based on the whole assessment of the risk and protective factors.

- Clinical assessment of risk is based on exploring four general areas: personal history, mental state examination, collateral history from informants and other sources, and answering specific questions (5).

1. Risk to self

In the UK, there were 4,727 suicides recorded in 2013, a rise of 214 since 2012. The overall trend in the suicide rates has been decreasing since 1998 until 2008 but has been rising slightly since. The three-year average rate for 2011-13 was 8.8 suicides per 100,000 general population (6). The three-year average rate for 2011-13 for males and females was 13.8 and 4.0 per 100,000 population, respectively (6).

Suicides in adult males, account for over three quarters of all suicides.

Suicide remains the second most common cause of death among young people (up to the age of 18). Self-harm is an important signal of distress, so it needs sensitive responses with careful handling (7).

Trends in rates of self-harm in England between 2000 and 2012 were similar to those for suicide. Thus, rates decreased up until 2007 and then increased, mainly due to a rise in males. Self-harm includes acts of intentional self-poisoning or self-injury, irrespective of type of motivation.

More than three-quarters of self-harm episodes involved self-poisoning. Overall, 58% of patients were females, 40% were under 25 years, 89% were of white ethnic origin and 30% were unemployed at the time of presentation to hospital (8). Alcohol ingestion is commonly related to self-harm.

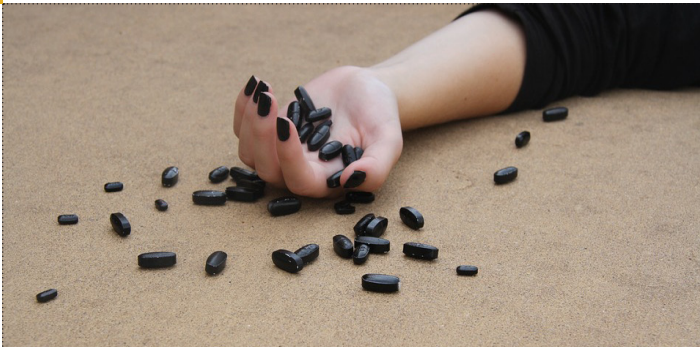
Assessing the risk of harm to self

When a clinician suspects that his patient is suicidal, it will be important to talk about suicide with the individual. Discussing suicide will not make the individual more likely to attempt suicide. In fact, by being open about suicide and giving the individual a chance to discuss the topic, the individual may come to realise that suicide is not the best solution for the problem (9).

It is important to be non-threatening, non-judgemental, and empathic throughout the interview. Important factors associated with increased risk for suicide should then be assessed (see Box 2).

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Demographic factors

- Male
- Increasing age
- Low socioeconomic status
- Unmarried, separated, widowed
- Living alone
- Unemployed

Background history

- Deliberate self-harm (especially with high suicide intent)
- Childhood adversity (e.g. sexual abuse)
- Family history of suicide
- Family history of mental illness

Clinical history

- Mental illness diagnosis (e.g. depression, bipolar disorder, schizophrenia)
- Personality disorder diagnosis (e.g. borderline personality disorder)
- Physical illness, especially chronic conditions and/ or those associated with pain and functional impairment (e.g. multiple sclerosis, malignancy, pain syndromes)
- Recent contact with psychiatric services
- Recent discharge from psychiatric in-patient facility

Psychological and psychosocial factors

- Hopelessness
- Impulsiveness
- Low self-esteem
- Life events
- Relationship instability
- Lack of social support

Current 'context'

- Suicidal ideation
- Suicidal plans
- Availability of means
- Lethality of means

Box 2: Risk factors for suicide (10,11)

Specific questions for assessing suicidal ideation

1. Have you been feeling depressed?
2. Have you ever had thoughts of killing yourself?
3. When did these thoughts occur?
4. What did you think you might do to yourself?
5. Did you act on these thoughts?
6. How often do these thoughts occur? When was the last time?
7. Have your thoughts ever included harming someone else as well?
8. What have you thought about doing to yourself recently?
9. Have you taken steps towards doing this? (e.g. getting pills/buying a gun)
10. Have you thought about when and where you would do it?
11. Have you made any arrangements or left instructions for people for after your death (a note or a will)?
12. Have you considered the impact of your death on your family or friends?
13. What has stopped you from acting on your thoughts so far?
14. What help could make it easier for you to cope?
15. How does talking about all of this make you feel?

Adapted from: Fremouw, W. J., de Perczel, M., & Ellis, T.E. (1990). Suicide Risk: Assessment and Response Guidelines. New York: Pergamon Press.

Protective factors that impart a degree of resilience against suicidal behaviours are crucial because the interplay of risk and protective factors may ultimately determine the outcome for individuals. Some leading protective factors are discussed here (adapted from JC Fowler, 2012) (12).

- Strength of religious conviction, social support, and spiritual practices serving as coping strategies.
- Reasons for living, incorporating aspects of social and religious/moral protective factors into a single scale.
- Marriage, except in the presence of a high-conflict or violent relationship.
- Children in the home, except in the cases of post-partum mood or psychotic disorders, teen pregnancy, and extreme economic hardships.
- Supportive social networks.
- Therapeutic contacts, such as psychosocial treatments of Borderline Personality Disorder.
- Psychotropic medications, such as lithium prophylaxis for mood disorders and clozapine for psychotic disorders.

2. Risk posed to others

'Although individuals with a serious mental illness such as schizophrenia, major depression or bipolar disorder, are more than twice as likely to be violent during their lifetime than individuals without mental illness, the lifetime prevalence of violence by people with mental illness is only 16%.

In comparison, people without a mental illness who abuse substances, have a 35% lifetime prevalence of violence. Add substance abuse to mental illness and this figure rises to 44%' (Professor Renée Binder, President of the American Psychiatric Association, Keynote Address at the Royal College of Psychiatrists, Birmingham, 2015).

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It is important to note that most people with mental illness are not violent. In actual fact, 95% of violent acts are carried out by people not suffering from mental illness, and those with mental illness are more likely to be the victims of violence than the perpetrators.

Assessing the risk of violence

Different grades of violence in order of increasing concern and severity include verbal abuse, verbal menacing, aggression towards property, physical fighting, and sustained or premeditated violence using an element.

Before assessing an individual, the clinician should check their medical records for previous violence or prison sentences, and take steps to maintain personal safety at all times. Gathering collateral information from other sources is also vital. Research has shown that a number of factors are predictive of future violence (see Box 3).

Demographic factors

- Male
- Young age
- Socially disadvantaged neighbourhoods
- Lack of social support
- Criminal peer group

Background history

- Childhood maltreatment
- History of violence
- First violent at young age
- History of childhood conduct disorder
- History of non-violent criminality

Clinical history

- Psychopathy
- Substance abuse
- Personality disorder
- Schizophrenia
- Executive dysfunction
- Non-compliance with treatment

Psychological and psychosocial factors

- Anger
- Impulsivity
- Suspiciousness
- Morbid jealousy
- Criminal/violent attitude
- Command hallucinations
- Lack of insight

Current context

- Threats of violence
- Interpersonal discord/instability
- Availability of weapons



A history of violence is the single strongest predictor. Also, drugs and alcohol misuse is linked with violent crime. This can be due to effects of the drug, interaction between a mental illness and drug use, stealing to get money, or fighting between drug users or dealers.

If violence is suspected, the individual should be asked these questions: (Adapted from Andrews & Jenkins, 1999) (9)

- Are you angry at anyone?
- Are you thinking about hurting anyone?

If the answer to either question is positive, then further questions need to be asked:

- Who are you angry at, or thinking about hurting?
- When do you think you might hurt (the person mentioned)?
- Where will you do this?
- How long have you been thinking this way?
- Are you able to control these thoughts?
- Do you think you would be able to stop yourself from hurting (the person mentioned) if you wanted to?
- For how long do you think you can control these thoughts?
- Have you ever purposely hurt someone in the past?
- (If the answer to the previous question is negative), How close have you come to hurting someone in the past?

Box 3: Risk factors for violence (13, 14)

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Principles of risk management

A systematic assessment of risk must generate an appropriate risk management plan. This plan needs to be disseminated to appropriate professionals, and also regularly reviewed.

Effective risk management in mental health is one that balances care needs against risk needs, and that emphasises:

- Positive risk management. This involves improving the service user's quality of life and plans for recovery, while remaining aware of the safety needs of the service user, their carer and the public.
- Collaboration with the service user and carers
- The importance of recognising and building on the service user's strengths; and
- The organisation's role in risk management alongside the individual practitioner's (15).

In situations where mental illness results in lack of insight and non-adherence to treatment plans, the use of the mental health legislation may become an essential component of an appropriate risk management plan.

Risk management of the suicidal patient

• **A useful approach is the SAFE-T (Suicide Assessment Five-step Evaluation and Triage) (12), which guides the clinician through the following steps:**

1. Identifying modifiable risk factors, which can be targeted in treatment.
2. Identifying protective factors.
3. Conducting a suicide inquiry including current thoughts, plans, behaviour, and intent.
4. Determining level of risk and select interventions to reduce risk.
5. Documenting the assessment of risk, the rationale for chosen interventions, and follow-up plan.



• **SAFE-T was derived from data and recommendations from the American Psychiatric Association Practice Guidelines (2003) (11).**

• There is no evidence for the effectiveness of no-suicide contracts (agreements between a patient and a clinician in which the patient pledges, usually in writing, not to harm him- or herself) in reducing death by suicide or suicide attempts.

• **Safety Planning Intervention (SPI)** is a collaborative intervention developed by Stanley and Brown (16) and identified as a best practice by the American Foundation for Suicide Prevention. A safety plan is a hierarchical list of coping strategies that a patient can rely upon in acute crisis, enabling patients themselves to monitor their own risk and, depending on the level of this, to act accordingly.

Step 1: Identifying warning signs.

Step 2: Making use of Internal coping strategies.

Step 3: Distraction techniques.

Step 4: People whom I can ask for help.

Step 5: Seeking professional help.

Step 6: Making the environment safe.

Risk management of potential violence

Clinicians have a duty to warn a third party and breach a patient's confidentiality if they believe there is a reasonable chance that the patient will harm someone. If the patient is detainable under the mental health act, then hospitalisation may be the right intervention.

Clinicians should discuss their concerns and intended action plan with the potentially violent individual. However, if they believe that such discussion will put them at risk, then they should warn the third party without informing the violent individual.

Consulting with a supervisor or with the mental health team is advisable, whenever there is doubt about the action plan.

All decisions should be recorded, signed and dated. Notes should also include details of the risk assessment process and the reasons why these proposed decisions are likely to be effective.

The risk management plan must be communicated to the patient and all of those involved in their care.

In addition to the above principles, NICE (National Institute for Health and Care Excellence) emphasises the importance of adopting approaches to care that respect service users' independence, choice and human rights (17).

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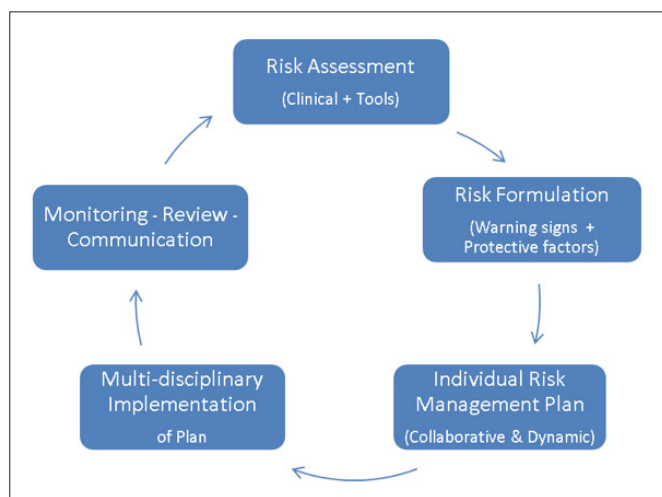


Figure 1: Risk Assessment & Management Cycle.

Conclusion

Although risk will never be eliminated completely, it can be minimised by implementing good processes and procedures.

An efficient risk management process is dynamic and meant to inform the individual care plan, as well as the organisational governance systems.

Test yourself

1. Which of the following statements is true regarding suicide risk?

- Asking about suicidal ideation and plan in the interview will intensify the risk of subsequent suicide attempts.
- The primary goal of risk management is to eliminate the risk completely.
- Actuarial approaches provide accurate prediction of an individual's suicidal risk.
- Suicide is the second most common cause of death among young people.
- Completed suicide occurs more commonly in women.

2. Which of the following is true regarding risk management?

- Risk management can only be done in secondary care.
- Risk management can only be done safely if it is following from a detailed risk assessment

c. Suicide risk can only be managed safely if the patient is admitted to a psychiatric bed.

d. Risk management cannot include safety planning.

e. Confidentiality should be maintained at all times when managing the risk of violence.

3. The single strongest predictor of future violence is:

- History of childhood conduct disorder.
- Availability of weapons .
- History of violence.
- Mental illness.
- None of the above.

4. Protective factors against the risk of suicide include:

- Religious conviction.
- Stable marriage.
- Supportive social network.
- Psychotropic medication.
- All of the above.

5. When managing the risk of violent behaviour, clinicians must do all of the following except:

- Consider the use of the mental health act.
- Communicate the risk management plan to the patient and those involved in their care.
- Warn an identifiable victim of a patient's serious threat of harm.
- Inform a potentially violent patient of the clinician's duty to disclose information without consent to protect an identifiable victim.
- Record all findings and decisions.

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Answers

1. Answer: d

Discussing suicide does not make the individual more likely to attempt suicide. By giving the individual a chance to discuss the topic, the individual may come to realise that suicide is not the best solution for the problem. Risk cannot be eliminated entirely but can be minimised. Actuarial approaches are based on data collected from populations at risk and therefore may not be accurate at the individual level.

They should be combined with a thorough and systematic clinical assessment. Suicide is the second most common cause of death among young people up to the age of 18. Men are 3 times more likely to complete suicide, although women attempt suicide 4 times more often than men.

2. Answer: b

Risk management plans can only be set up once potential risks are familiar. Therefore, it is crucial to firstly take a detailed history exploring the risks from all possible angles, through a multifaceted assessment. Once this is completed, it is reasonable to consider various settings for managing this risk. Not all patients that are acutely suicidal require psychiatric admission or secondary care input, however this needs to be given a thought also, as quite a few of them do.

It is important to involve all levels of support for managing the risks and draw on the patient's inner strength, as well as his/her family's support or those around him/her, adding in professional help where needed. Where there is clear risk to another person or to the public, confidentiality can be breached for the protection of others.

3. Answer: c

History of childhood conduct disorder and availability of weapons are risk factors for violent behaviour. The lifetime prevalence of violence by people with mental illness is only 16%. However, the risk of violence is significantly increased among those who misuse alcohol and drugs. Research supports the view that the mentally ill are more often victims than perpetrators of violence. History of violence is the single strongest predictor of future violence.

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4. Answer: e

Cultural and religious beliefs that discourage suicide can buffer individuals from suicidal thoughts and behaviour. Similarly, a stable marital relationship and supportive community are important protective factors. Effective clinical care for mental disorders, including pharmacotherapy, also reduces the risk of suicide. Examples include lithium prophylaxis for mood disorders and clozapine for psychotic disorders.

5. Answer: d

In situations where mental illness results in lack of insight and non-adherence to treatment plans, the use of the mental health act must be considered. Ensuring that the patient, carer and others who might be affected are fully informed of the risk management plan and the reasons for it is essential.

Clinicians have a duty to warn a third party and breach a patient's confidentiality if they believe there is a reasonable chance that the patient will harm someone. Clinicians should discuss their concerns and intended action plan with the potentially violent patient. However, if they believe that such discussion will put them at risk, then they should warn the third party without informing the patient. All significant risk-related decisions and the rationale for them should be recorded.

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ASSESSMENT, DIAGNOSIS & MANAGEMENT OF DEMENTIA WITH LEWY BODIES

Q Zhou, A Patel, R Gibbons, M Cheaveau



Assessment, Diagnosis & Management Of Dementia With Lewy Bodies Patient Management

Abstract

Dementia with Lewy bodies (DLB) is the second most prevalent dementia after Alzheimer's disease (AD). The diagnosis of DLB can be clinically challenging because of the overlapping symptoms between DLB, AD and Parkinson's disease with dementia (PDD). However, accurate diagnosis is important for appropriate clinical management and service planning.

For example, DLB has a differential response to cholinesterase inhibitors and a much greater susceptibility to severe, adverse reactions to neuroleptic medications. We describe the case of a man (N.P) with DLB who presented with intermittent confusional states and neuropsychiatric symptoms, predominantly polymodal hallucinations, which posed diagnostic and management challenges on an elderly care ward.

Case History

N.P was a 70 year-old retired engineer who presented to hospital in the early hours of the morning following a fall at home. The ambulance crew found him on the floor confused with facial contusions. A CT head scan demonstrated central volume loss, without acute pathology. The patient was subsequently admitted to the elderly care ward for investigation into his fall and rehabilitation.

On his third day of admission, N.P developed episodes of acute confusion, visual and auditory hallucinations with marked deterioration in his cognitive function and ability to manage his activities of daily living. Further collateral history from his daughter revealed that he drank 2-3 alcoholic drinks (5-7 units) per day, and was a non-smoker. There was no history of recreational substance use. His wife passed away ten years ago. His daughter felt that N.P's mobility was slowly declining but she attributed this to age-related frailty.

On further questioning, she mentioned that his wife had concerns about his sleeping behaviour and occasional muddled state. The general practitioner's assessment had been inconclusive. She also gave a history of episodic odd behaviour of her father in the last 6 months, such as attempting to make a cup of tea using 60 tea bags. He would forget his daughter's name, and would be unable to write out a cheque. These were infrequent episodes and seemed to resolve naturally.

N.P was given a course of clordiazepoxide and intravenous Pabrinex (multivitamins) to treat potential alcohol withdrawal and showed some initial improvement. However three weeks later, he clinically deteriorated. His confusion returned and he became agitated, displaying symptoms of dysphagia and dysarthria. He also began experiencing visual (depicting mass murders) and auditory hallucinations (hearing negative opinions about him), which distressed him.

An urgent CT head showed no acute changes. A complete septic screen including serology, chest radiography and lumbar puncture showed no abnormality. Vital sign parameters were within normal limits. He was given empirical antibiotics for presumed aspiration pneumonia, which were discontinued the next day, as there was no clinical evidence of infection. His symptoms of dysphagia and dysarthria later improved.

Over the following two weeks, N.P continued to have visual hallucinations and intermittent confusion. Further neurological testing was normal aside from mild rigidity and brisk reflexes. There were no involuntary movements or tremors. His gait was hesitant, unsteady with a tendency to lunge forward (Parkinsonian gait). A MRI head at this stage demonstrated generalised volume loss.

N.P's condition clinically deteriorated during the eight weeks. Ongoing nocturnal disturbances led to the prescribing of haloperidol by the overnight on-call teams, but this exacerbated his symptoms. He had repeated falls, and became more confused and agitated requiring constant one-to-one nursing care. Referral was subsequently made to Old Age Liaison Psychiatry for assessment and management.

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Mental state examination

Appearance and behaviour

N.P was apathetic at the initial visit. However, during interviews, he became wary and suspicious and was not able to maintain eye contact as he seemed distracted by unseen stimuli. When he walked with a zimmer frame, his gait was hesitant and unsteady.

Speech

Speech was low-volume and reduced in rate. He would stop in the middle of a sentence and appeared incoherent. He responded to hallucinations during interviews, and talked over what was asked.

Affect

N.P demonstrated labile affect. At times he appeared euthymic and calm, and other times he was anxious and agitated as a result of the hallucinations.

Thoughts

No delusions, overvalued ideas or obsessions. No evidence of formal thought disorder.

Perception

N.P suffered from vivid visual hallucinations. He frequently saw vulnerable people (elderly or children) being hurt, abused and killed, which he found very stressful, and forced him to shut his eyes so not to witness the attack. He also had second and third person auditory hallucinations.

Insight

N.P showed fluctuant insight into his condition. He talked about feeling unwell after falls and was in the ward to get better. On other occasions, he became disoriented and attempted to abscond.

Cognition

Montreal Cognitive Assessment (MOCA) was performed at weekly intervals. He scored between 10 and 18 out of 30, with poor performance in attention and executive functions. He performed relatively well in the memory domain.

Diagnosis

N.P had a clinical syndrome of fluctuating cognitive status with intermittent confusion, pronounced visual hallucinations, gait unsteadiness and repeated falls. There was no evidence of cerebrovascular infarct, overt reversible factors of a delirium, AD or Wernicke-Korsakoff's syndrome.

There was strong evidence of neuroleptic sensitivity. The clinical symptoms and a collateral history of sleep disturbance (similar to REM sleep disorder) indicated a diagnosis of DLB. A ¹²³I-ioflupane brain SPECT study (Figure 1), which demonstrated reduced uptake at basal ganglia supported the diagnosis.

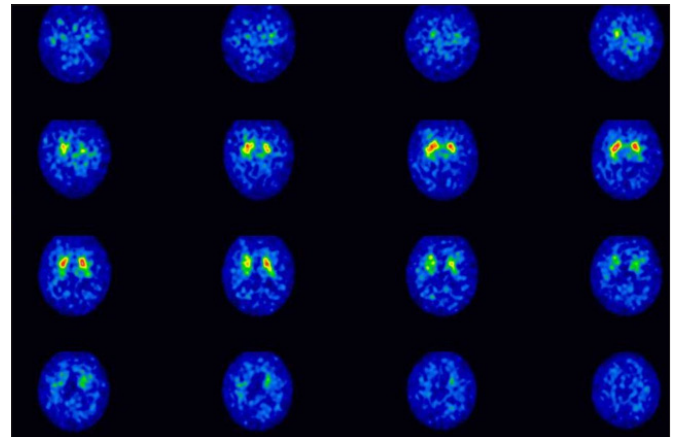


Figure 1: I-ioflupane Brain SPECT Study (Datscan) (1,2,3). There is reduced uptake in the striatum supporting the clinical impression of dementia with Lewy bodies.

Management

N.P's diagnosis was discussed at the MDT meeting in the presence of his daughter. The nature of DLB was explained and further management plans were agreed. He received daily physiotherapy, and on-going support from the dementia specialist nurse.

There is a limited choice of pharmaceutical interventions available for treatment of DLB. N.P was offered a short course of low-dose Clonazepam 0.5mg at night to alleviate his disturbance in sleep and anxiety. Rivastigmine patches were started as a mainstay treatment, which had good effect.

At his 5-month follow-up, N.P had shown improvement in both mobility and behavioural outcomes with fewer visual hallucinations. His cognitive function however, had declined.

Discussion

It is well known that DLB remains underdiagnosed, with more than 50% of cases missed in one study (1). This has important clinical ramifications as DLB generally runs a more aggressive course than other dementias, with early and prominent neuropsychiatric features (2). A timely correct diagnosis allows service planning, patient and family discussion and appropriate interventions. Three core symptoms are associated with DLB, these are fluctuating cognition, recurrent visual hallucination and parkinsonism (3,4).

Other clinical features include recurrent falls, syncope, transient loss of consciousness, neuroleptic sensitivity, systematized delusions, sleep behaviour disorder, depression and hallucinations in other modalities (3,4). Diagnosis of DLB requires at least two core features or one core plus one other feature, with clinical exclusion of other physical illness or brain disorders (3,4). Diagnostic accuracy may be improved by the aids of neuroimaging (CT/MRI/¹⁸F-FDG PET and ¹²³I-IOFLUPANE SPECT) (3,4,5,6).

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However, it is important to note that DLB is a clinical diagnosis, none of the neuroimaging techniques offers diagnostic value on its own, due to limited specificity. For example, both Parkinson's Disease (PD) and DLB will have very similar changes in 18F-FDG PET and 123I-IOFLUPANE SPECTS. It is the temporal relationship of a cluster of clinical features that help differentiate between DLB and PDS.

Cognitive fluctuations are sudden changes in cognition, attention and arousal. If clinicians see patients at a time when they perform similarly to baseline function, this may be missed, highlighting the importance of a good collateral history. This is limited in the elderly living alone. Compared to PDD or AD, DLB presents with early and prominent neuropsychiatric features, especially vivid visual hallucinations, delusions, apathy and anxiety (7,8).

Individuals may respond to their hallucinations with intense fear, causing clinical symptoms of anxiety and depression. On the other hand, memory impairment is often not as severe as with other types of dementia. On cognitive assessment such as MOCA or Addenbrookes Cognitive Examination-III (ACEIII), the most commonly impaired domains are visuospatial and executive functions particularly attention, word fluency, inhibition and planning (7,8).

At present, the cholinesterase inhibitor Rivastigmine is the only licensed pharmacological therapy for the cognitive symptoms associated with DLB (9,10). Studies have demonstrated that cholinesterase inhibitors have efficacy in reducing neuropsychiatric symptoms as well as cognitive symptoms (9). Levodopa may be useful in treating motor symptoms in a minority of patients. However, treatment with levodopa may exacerbate neuropsychiatric symptoms (9,10).

Given the fact that patients with DLB are especially sensitive to the extrapyramidal side effects of neuroleptics, nonpharmacological interventions are typically utilised in the management of DLB, such as mobility aids and physiotherapy to help prevent falls (9,10).

Pathological Lewy bodies, abnormal aggregates of alpha-synuclein, are typically found in the substantia nigra and locus coeruleus on post-mortem studies of such patients (11). Such aggregates are also found in other neurodegenerative disorders and are therefore not the most accurate distinguishing feature.

Multiple Choice Questions

1. A 75-year-old retired teacher is admitted to a medical ward with community-acquired pneumonia. His wife reported that over the last 6 months, she noticed a change in her husband's behaviour, and at times he seemed talking to nobody in the room. Which of the following is not a core clinical feature of DLB?

- Visual hallucinations
- Fluctuating cognition
- Apathy
- Parkinsonism
- Sudden changes in cognition, attention and arousal

2. Management of neuropsychiatric symptoms of DLB is most appropriate with:

- Prescribe Haloperidol in small doses orally as required for agitation
- Prescribe Risperidone at small dose regularly
- Prescribe intramuscular Haloperidol to ensure compliance
- A trial of Rivastigmine together with non-pharmacological to prevent falls
- First generation antipsychotics such as Thiothixene should be considered

3. Cognitive decline in DLB has features of:

- Pronounced short-term memory loss
- Anterograde amnesia and confabulations
- Progressive global decline in all domains
- Pronounced impairment in visuospatial and executive functions
- Continuous decline without period of stability

4. With regards to choice of neuroimaging for the diagnosis of DLB:

- CT head should demonstrate characteristic atrophic changes
- MRI is more specific for diagnostic purpose
- 123I-ioflupane is the only diagnostic neuroimaging for DLB
- Combined investigation with CT, MRI and PET should always be used
- No neuroimaging is required as the diagnosis of DLB is predominantly clinical

5. Neuropathology of DLB:

- Lewy bodies are found in brainstem and specific to DLB
- Amyloid plaques and neurofibrillary tangles are the two major components of Lewy bodies
- Lewy bodies are abnormal aggregates of alpha-synuclein and highly specific for both DLB and PD
- Lewy bodies may be found in other neurodegenerative disorders and not specific for DLB
- Lewy bodies contain a mixture of alpha- and beta-synuclein, which aggregate in post-synapses only

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Answers

1. c

The three core symptoms of DLB are fluctuating cognition, recurrent visual hallucinations and Parkinsonism. Apathy can be seen in DLB but not one of the core clinical features.

2. d

Neuroleptic sensitivity is one of the other features of DLB. Giving antipsychotics such as Haloperidol (orally or intramuscular) or Risperidone can worsen symptoms of Parkinsonism and cognitive decline. The recommended management approach is non-pharmacological interventions such as mobility aids and physiotherapy, together with trials of Rivastigmine.

3. d

DLB has more pronounced impairment in visuospatial and executive functions while memory is relatively preserved, especially in earlier stage of the disease. Answer b is characteristic for Wernicke-Korsacoff syndrome.

4. e

No neuroimaging is diagnostic for DLB. An 123I-ioflupan scan (Datscan) may demonstrate reduced uptake at basal ganglia and support a diagnosis of DBL. However, this can be seen in PD as well.

5. d

Lewy bodies are findings at autopsy. Presence of Lewy bodies are not specific to DLB and can be found in PD and AD as well.

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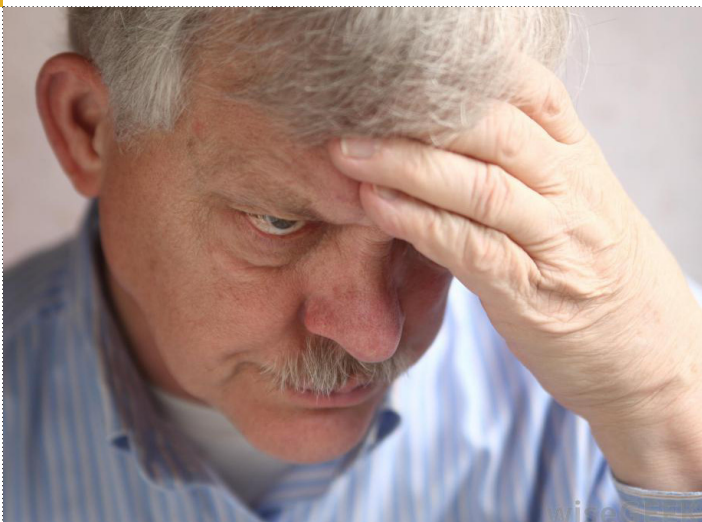
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AN OVERVIEW IN THE MANAGEMENT OF ACUTE DISTRESS & AGITATION IN PATIENTS OVER 65

C Potter, K Tang, G Young, J Anderson



Abstract

Foundation doctors are often asked to assess patients over the age of 65 who are in acute distress or severely agitated. This usually occurs in the out of hours setting where there is less senior support, nursing staff cover and capability for clinical investigation, all adding to the challenge for the doctor. Common causes include delirium, dementia and functional psychiatric illnesses.

Confidence and accuracy in pharmacological intervention in this cohort of patients is low, and often simple reversible causes are overlooked, prolonging admission and potentially putting the patient at risk. This review identifies common causes of acute agitation, suggests tools foundation doctors can use in the assessment of these patients and provides guidance on the appropriate and proportional use of non-pharmacological and pharmacological interventions.

Introduction

It is important that foundation doctors are competent in appropriate assessment and management when asked to assess patients with acute distress and agitation. Agitation is an unpleasant state of extreme arousal, defined as excessive and purposeless verbal, vocal or motor activity(1), and may manifest as sleep disturbance, anxiety, irritability, confusion, aggression or socially inappropriate behaviour.

An Overview In The Management Of Acute Distress & Agitation In Patients Over 65 Good Clinical Care

A recent survey completed by these authors in a large District General Hospital (DGH) in Northern Ireland demonstrated that only 58% of medical and surgical staff from foundation to registrar level felt confident in the pharmacological management of patients with agitation. Worryingly, an audit completed in the same DGH identified a 60% error rate in medications used for rapid tranquillisation, highlighting a need for further education.

In the inpatient setting, acute distress and agitation can be a sign of delirium. Delirium is an acute, fluctuating change in mental state which can be characterised by a disturbance in consciousness, cognitive function or perception. It is believed that up to 40% of medical inpatients and 80% of patients in ICU suffer from a delirium during their admission. (2,3)

Organic and functional psychiatric illnesses (including the dementias) can also cause acute agitation, but these are more common in the psychiatric inpatient setting. This can prolong the length of admission, can put the patient at risk of more hospital acquired complications such as falls and can carry a one year mortality rate of up to 40%. (4,5)

Assessment of the patient with acute agitation

Vignette 1

Mrs. X is an 87 year old woman admitted to hospital 3 days ago. A ward nurse contacts you, asking you to review Mrs. X: she has become more confused since admission and is now agitated and in distress.

As the foundation doctor what do you need to know?

In the management of acute behavioural disturbance, it is important to complete a thorough assessment to identify predisposing and precipitating factors, especially acute physical causes.

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D	Drugs (withdrawal/toxicity including alcohol) Dehydration
E	Electrolyte imbalance Evidence of injury
L	Level of pain
I	Infection/ Inflammation
R	Respiratory failure (hypoxia/ hypercapnia)
I	Impaction of faeces
U	Urinary retention
M	Metabolic disorder (liver, renal, cardiac failure, glucose disorders) Myocardial infarction

Box 1: Reversible causes remember "DELIRIUM"

Safe and effective care involves the treatment of identified reversible factors as outlined using the mnemonic "DELIRIUM" (Box 1).

When assessing a confused patient it is useful to remember the simple mnemonic "ABCD" (Box 2). This helps to ensure the safe assessment and treatment of all confused patients. It also encourages consideration of reversible causes, in conjunction with non-pharmacological measures before the use of rapid tranquillisation medication.

You need to consider the following:

- Risks – Does the current situation pose a risk? Is the patient an immediate threat to self or others?
- Approaching and re-orientating the patient – introducing yourself and explaining clearly why you are there.
- Ensuring personal safety – bring a nurse.
- Place yourself between the patient and the exit.

A	Asses risk Approach safely
B	Background Basic investigation
C	Clinical Examination "Cardex" (Kardex- drug chart)
D	Documentation De-escalation
R	Reversible causes Risk assessment +/- intervention

Box 2: Remember "ABCD"

Risk assessment +/- intervention

Asking about the patient's background, including past medical and psychiatric history, will help to identify reversible causes. For example:

- **Does this patient have a background of cognitive impairment?**
- **Is the patient being treated for infection or have they had a recent fall?**
- **How long has the patient been in hospital?**
- **When did the confusion and agitation start?**
- **What measures have been taken already by nursing staff?**

Performing basic investigations is a vital part of assessment and intervention. This includes physical observations and, if appropriate, blood tests to identify reversible causes of acute agitation such as hypoxia, pain or electrolyte abnormalities.

Clinical examination will also inform diagnosis, as this may identify signs of injury, sepsis, constipation or urinary retention.

Reviewing the drug chart will show any recent changes to medication, and may alert you to opiate or benzodiazepine withdrawal.

AN OVERVIEW IN THE MANAGEMENT OF ACUTE DISTRESS & AGITATION IN PATIENTS OVER 65

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Management of the patient with acute agitation

Vignette 2

Mrs. X was admitted to hospital with a urinary tract infection. She has completed 3 days of antibiotics and her inflammatory markers are improving. At present, she is shouting out, restless and resistive. She was transferred to a different ward this morning and has not yet received her usual analgesic medications.

How would you proceed with management?

Once acute physical causes have been either ruled out or attended to, you should consider non-pharmacological measures in partnership with nursing staff. In order to reduce the impact of behavioural disturbance on the individual and other patients, immediate management should take place in a safe, low-stimulation environment, separate from other patients.

It should include the use of appropriate verbal and non-verbal communication, with de-escalation and distraction techniques, and a review of nursing observation level. You could also address disorientation verbally, and with the use of environmental cues such as clocks, calendars, appropriate lighting and familiar prompts for individual patients.

Vignette 3

Despite non-pharmacological interventions and administering her usual morning medications, Mrs. X remains distressed. The nursing staff are unable to manage the patient's level of agitation and she is at risk to herself.

What are the next management steps?

If the above measures are ineffective or inappropriate, it may be necessary to consider pharmacological management. Prescribing in the elderly can be complex due to low body mass, multiple comorbidities and the changes in pharmacodynamics and pharmacokinetics as people age. (6)

Psychotropic medications should be used as a last resort in those over 65. Before prescribing, consider the risks that patients pose to either themselves or others and the potential benefits of psychotropic medications against the side effects.

DRUG	Appropriate dose	Peak effect	Max 24h dose
Lorazepam	0.5-1mg PO/IM	45-60 mins	2mg
Haloperidol	0.5-1mg PO 1-5mg IM	4-6 hours 20-40 mins	9mg
Olanzapine	2.5-5mg PO	45-60 mins	5mg
Risperidone	0.25mg PO (Quicklet)	2-4 hours	2mg

Box 3: Starting doses for over 65.

At all times, the intervention chosen must be a proportionate and a reasonable response to the risk and, with consideration of the patient's mental capacity, deemed to be in the patient's best interests. The aim of pharmacological management is to calm the patient and reduce the risk of violence or harm, by reducing the level of agitation or aggression without over-sedation.

Medication is started at the lowest clinically appropriate dose and titrated cautiously according to symptoms, allowing 45-60 minutes for a response. (Box 3). (7,8) Senior colleagues should be consulted if there is minimal response, or at any stage were you require assistance.

Choice of medication should take account of local trust policies, patients' diagnosis, medical and psychiatric history, and regularly prescribed medications. An awareness of polypharmacy in this patient population is important, and the consideration of potential drug interactions is essential, for which the British National Formulary and online resources can be of use - for example, the 'Medscape Drug Interaction Checker' (9).

Oral preparations should be offered, with the use of intramuscular medication a last resort, avoiding intravenous preparations. Due to the risk of adverse effects, antipsychotic medication should be avoided or if necessary used with caution in patients with Parkinson's disease, dementia (especially dementia with Lewy bodies), cardiovascular disease or risk factors or epilepsy. (8)

AN OVERVIEW IN THE MANAGEMENT OF ACUTE DISTRESS & AGITATION IN PATIENTS OVER 65

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Pharmacological management is informed by the primary cause of the distress and agitation:

- **Delirium:** National Institute of Clinical Excellence (NICE) recommends the use of short term Haloperidol or Olanzapine in delirium.(10) Haloperidol is licensed for treatment of agitation and restlessness in the elderly.(7)
- **Dementia:** In the case of behavioural and psychological symptoms of dementia, Lorazepam can be considered. It is important to consult with senior colleagues prior to the prescription of antipsychotics. Risperidone is the only licensed antipsychotic drug in the treatment of aggression in Alzheimer's Dementia.(7,11)
- **Functional Mental Health:** If behavioural disturbance is due to a functional mental health diagnosis (affective disorders, schizophrenia, etc), Lorazepam is preferable initially in a non-psychotic context.(12) Olanzapine is licensed for the treatment of agitated or disturbed behaviour in schizophrenia or mania. (12) IM Lorazepam should not be given within 1 hour of IM Olanzapine due to the risk of over-sedation and cardiorespiratory depression.(12,13)

Vignette 4

Mrs. X has received oral sedation and is directed back to bed by the nursing staff. You notice she is becoming more drowsy than usual.

What potential side effects are important to consider?

The primary adverse effects of antipsychotics are the extrapyramidal side effects (EPSE), which are tardive dyskinesia, dystonic reactions, parkinsonism and/or akathisia (Box 4). (7) They can also cause prolongation of the QT interval (safe upper limit for men is 440 msec and for women is 460 msec), orthostatic hypotension, and/or neuroleptic malignant syndrome. (14)

Antipsychotics are also shown to be associated with increased cerebrovascular events in elderly patients with dementia; therefore, there is a need to review the ongoing prescription of antipsychotics. (7,10,11) Long term monitoring for hyperglycemia, dyslipidemia, and weight gain in patients on antipsychotics is also recommended. (7)

Dystonia	Muscle spasms of the limb, trunk and neck.
Akathisia	Feeling of restlessness and need to be in constant motion
Parkinsonism	Syndrome characterized by tremor, bradykinesia, rigidity and gait instability.
Tardive dyskinesia	Involuntary repetitive body movements usually result of long term exposure to antipsychotics

Box 4

The most common side effects of benzodiazepines are drowsiness, ataxia and decreased psychomotor function. (7) Conversely, benzodiazepines can be associated with a paradoxical effect, which results in increased agitation as opposed to its sedating effect. (14) Benzodiazepines are not associated with EPSE.

Care should be taken when prescribing for the elderly population, as treatment with benzodiazepines is associated with an increased risk of falls, over-sedation and cognitive decline in the long term. (15) It is imperative to observe for signs of toxicity such as decreased consciousness and respiratory depression. It is useful to have flumazenil available, especially if higher doses are used, as the risk of respiratory depression is dose-related. (7)

What monitoring should you request?

Patients with acute distress and agitation should be monitored closely in an appropriate and supported environment. In those patients requiring pharmacological interventions, it is important to monitor carefully for the side effects outlined above.

Physical observation monitoring, including temperature, pulse, blood pressure, respiratory rate and oxygen saturations, should be monitored prior to and following drug administration. A baseline ECG should also be completed. Patients whose level of agitation prevents physical monitoring should be observed from a distance for signs and symptoms of airway compromise, cardiac collapse and general deterioration in physical and mental health.

AN OVERVIEW IN THE MANAGEMENT OF ACUTE DISTRESS & AGITATION IN PATIENTS OVER 65

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Vignette 5

The situation has been managed successfully; Mrs. X has become more settled following your interventions.

How should your assessment be completed?

Documentation of your assessment in the patient's clinical notes is an essential aspect of the management of patients with acute agitation. It is important to document the patient's premorbid functional level, the present level of agitation and the response to previous interventions.

In particular, you should document findings of the clinical examination, investigations, consideration of all reversible causes, and management plan, including the rationale for using appropriate and proportional intervention. Such documentation is essential for communication between colleagues and other healthcare professionals. A referral to, or discussion with, the local Hospital Mental Health Liaison team may provide further advice regarding diagnosis, ongoing monitoring and treatment.

Cognitive assessments can be carried out and documented, including the Confusion Assessment Method (CAM) to confirm the diagnosis (7,16) or the Mini Mental State Examination (MMSE) to allow the monitoring of the development and resolution of delirium. (17)

Summary

- Assessment and management of acute distress and agitation in patients over 65 is challenging for foundation doctors as demonstrated by a recent audit and survey by the authors.
- Acute distress and agitation can be a sign of delirium or due to organic or functional psychiatric illnesses.
- Remember to consider reversible causes using the delirium mnemonic.
- Always use non pharmacological measures in the first instance.
- It is important to be aware of, and monitor for, side effects of medications used.
- Documentation of your assessment and handover of information are important aspects of management.

Quiz Questions

Q1. Which of the following is not a side effect associated with antipsychotics?

1. Prolonged QT interval
2. Dystonia
3. Postural Hypotension
4. Respiratory Depression
5. Sedation

Q2. Prior to commencing antipsychotic medications, which of the following baseline investigations is not routinely tested:

1. FBP
2. Weight
3. EEG
4. ECG
5. Prolactin level

Q3. According to NICE, which of the following is the most appropriate psychotropic medication to use in the pharmacological management of acute distress and agitation due to delirium?

1. Lorazepam
2. Memantine
3. Risperidone
4. Olanzapine
5. Diazepam

Q4. A patient recently administered IM Haloperidol has developed a "muscle spasm" of his neck. What is the most likely problem?

1. Parkinsonism
2. Acute Dystonia
3. Akathisia
4. Neuroleptic Malignant Syndrome
5. Tardive Dyskinesia

Q5. The upper limit of safe QT interval for men is:

1. 440
2. 410
3. 500
4. 460
5. 480

Answers

1. Respiratory Depression

EPSE and hypotension are common side effects of antipsychotics. Benzodiazepines are more likely to cause respiratory depression than antipsychotics.

2. EEG

NICE recommend monitoring ECG, weight, blood pressure and bloods investigation including FBC, U&E, LFT, blood glucose, HbA1c, lipid profile and prolactin level at baseline before starting antipsychotic medications.

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3. Olanzapine

If a person with delirium is distressed and considered a risk to themselves, despite ongoing management of reversible causes, and if verbal and non-verbal de-escalation techniques are ineffective or inappropriate, NICE recommends the use of short term Haloperidol or Olanzapine in delirium.

4. Acute Dystonia

An acute dystonic reaction is a sustained, and sometimes painful, muscular spasm affecting the limbs, trunk or neck, resulting in twisting, abnormal postures. It is an extrapyramidal side effect of antipsychotic medication.

5. Answer: 440

Regarding the QT interval on the electrocardiogram, the safe upper limit of normal for men is 440 msec and for women is 470 msec. If an antipsychotic is prescribed, a switch to a drug of a lower effect could be considered. If greater than 500 msec in men or women, the suspected causative drugs should be stopped with immediate referral to cardiology.

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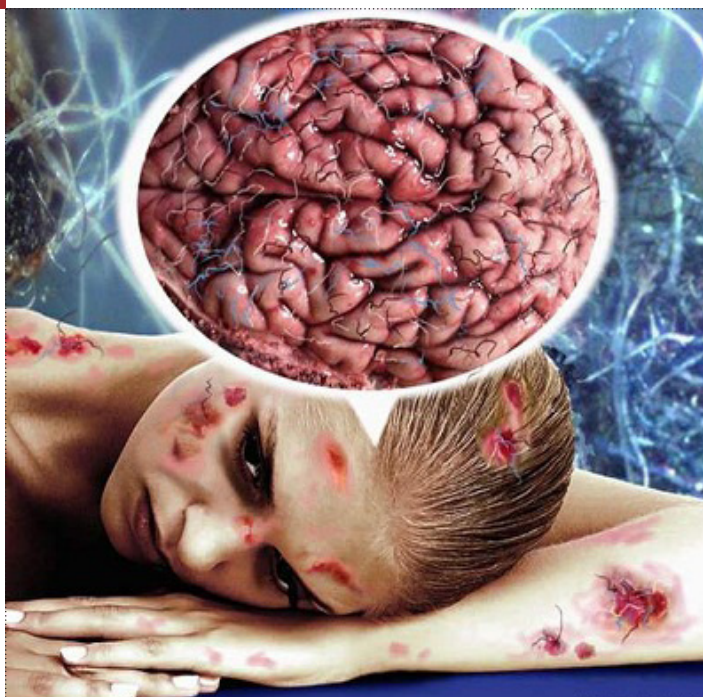
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DELUSIONAL INFESTATION

F Kassam, N Tate, J Bolton



Delusional Infestation Patient Management



Abstract

We describe the case of a 60 year old gentleman EM, who presented with the delusion that his body was infested with parasites. This is an example of a psychodermatological condition that is more often seen by general practice and dermatology than by psychiatry, partly because of patients' reluctance to consider a psychiatric cause for their symptoms. We discuss the differential diagnosis, management and prognosis of a condition that is often challenging to treat.

Case

EM was a 60 year old man who presented to the Emergency Department (ED) concerned that "fungus" was coming out of his nose. No foreign matter was seen by the ED staff, who were concerned about the bizarre nature of EM's ideas.

EM reluctantly agreed to speak with a psychiatrist, describing himself as "a rare case requiring urgent microbiological attention, not psychiatrists". As evidence of his infection he carried specimen pots containing samples of matter that he said had come out of his nose.

One pot contained a dry, flaky substance (Figure 1), the other a brown liquid. EM carried a magnifying glass to view the specimens, saying that he could see organisms with legs.

EM carried a microbiology textbook. He showed staff a section about bacterial reproduction, maintaining that pathological organisms were reproducing inside him. He was concerned that the warmth of the ED provided the ideal temperature for organisms to multiply within his body. EM reported losing three stone in weight over recent months, due to "parasites" living inside him.

Figure 1: A specimen of "organisms" carried by a patient with delusional infestation.

EM described a complex life cycle by which the organisms, named variously as fungi, bacteria, parasites and algae, reproduced and left his body via his nose. During the consultation EM tried to catch these in a pot held under his nose. No organisms were visible to hospital staff.

EM had a past history of nasal polyps, but no psychiatric history.

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What is the diagnosis?

EM's account suggests a diagnosis of delusional infestation. The condition is also known as 'Ekbohm's syndrome', a term coined by Karl Axel Ekbohm, a Swedish neurologist (1), and should not be confused with 'Willis-Ekbohm disease' (restless legs syndrome).

Delusional infestation is a disorder where a patient has a fixed, false belief that their body has been infested by a harmful living organism, despite lack of supporting medical evidence. The patient often refuses to heed medical advice or reassurance, and their belief cannot be corrected despite evidence to the contrary. As a result, such patients may present to specialities such as dermatology, and can be reluctant to consent to psychiatric referral, as in EM's case.

When delusional infestation arises as a primary problem it can be classified as "persistent delusional disorder" (2). This group of disorders is characterized by a long-standing single delusion, or a set of related delusions, without other conspicuous psychopathology.

Delusional infestation can also be a secondary problem in the context of substance misuse, drugs, or physical or psychiatric illnesses that affect the brain or cause pruritus (3).

What causes delusional infestation?

The pathogenesis of delusional infestation is unclear. In the case of EM, he may have been vulnerable to concerns about objects in his nose following his treatment for nasal polyps. This is consistent with recent theories that, as in other somatoform disorders, mild somatic symptoms can become amplified following a patient's increased awareness of or exposure to a particular illness. (4)

As in other psychotic illnesses, the dopamine hypothesis suggests that over-activity of dopamine in the striatum of the brain contributes to psychotic symptoms (including hallucinations and delusions). Evidence to support this hypothesis includes the observation that dopamine receptor blocking drugs (antipsychotics) reduce psychotic symptoms, including delusional infestation (4,5).

How should the patient be assessed?

Diagnosing delusional infestation can be challenging and may be a diagnosis of exclusion (5). With EM, the bizarre nature of his beliefs and behaviour was strongly suggestive of a delusional disorder.

Key points to consider in the assessment and management of patient with possible delusional infestation are included in Figure 2. When a delusion is suspected, the assessor should explore how fixed the belief is and, where possible, challenge it to see if it is held despite evidence to the contrary.

- **Undertake a joint assessment between the patient's GP or dermatologist and a psychiatrist.**

- **Maintain an empathic approach. Acknowledge the patient's distress, but avoid colluding with or reinforcing their beliefs.**

- **Explore the patient's conviction of infestation to determine how fixed the belief is and carefully challenge it to see if it is held in the face of evidence to the contrary.**

- **Enquire about possible triggering or contributory factors, especially those that might cause pruritus, including substance misuse, recently prescribed medication, and physical illness (e.g. diabetes, cancer, thyroid disease).**

- **Explore the potential risk that the patient's belief poses to them or others, especially any measures the patient has undertaken or is contemplating to remove the infestation.**

- **Consider prescription of an antipsychotic medication, suggesting to the patient that this might help to relieve their distress.**

- **In situations where there is judged to be a high risk of harm by the patient to themselves or others, consider hospital admission and treatment.**

Figure 2: Key points to consider in the assessment and management of a patient with suspected delusional infestation.

Enquiry should be made about possible triggering or contributory factors, including substance misuse or recently prescribed medication that might cause pruritus (3). Physical illnesses that can cause pruritus include diabetes, cancer, and thyroid disease. Formication, a sensation like insects crawling under the skin, can arise in stimulant intoxication or withdrawal (e.g. cocaine).

Patients may place themselves or others at risk by their attempts to eradicate infestation, e.g. use of caustic chemicals on the skin. A risk assessment should be made to determine whether they believe others to be infested, and whether they have attempted or considered measures to remove the infecting organisms. Apart from seeking medical treatment, EM reported no other measures to rid himself of his infestation.

Patients may also become depressed and experience suicidal ideation; hence their risk of self harm must be assessed.

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What is the management?

Treatment of delusional infestation is challenging as patients are often reluctant to consider a psychological dimension to their symptoms. As in EM's case, patients are often reticent about seeing a psychiatrist, hence management will often be delivered by general practitioners (GP) or dermatologists. If possible, a joint assessment conducted by dermatology and psychiatry may lead to better concordance with treatment (3).

Engaging the patient in treatment will require an empathic approach. This may include acknowledging their distress, whilst avoiding reinforcing their beliefs (3).

Primary delusional infestation can be treated with antipsychotic medication, although no drugs are specifically licensed for this purpose. There is limited evidence of effectiveness, but low doses of risperidone, olanzapine, amisulpride and haloperidol have been used with varying degrees of benefit. [6] Patients may be persuaded to undertake a trial of antipsychotic medication as a way of relieving their distress.

Risk assessment is vital as patients often resort to dangerous behaviours such as cleaning with chemicals. In cases where a patient with delusional infestation is judged to pose a high risk of harm to themselves or others they may require involuntary hospital admission under mental health legislation. The authors are aware of one case where a patient was detained after attempting to rid himself of infestation by burning his skin.

What is the prognosis?

It is recognised that engaging patients with delusional infestation (and other persistent delusional disorders) is challenging, as most patients do not accept that there may be a psychiatric cause for their problem. The patient we describe was reluctant to see a psychiatrist, but was persuaded by ED staff. However, he adamantly refused to take any psychotropic medication or to attend a follow-up appointment.

EM described no plans or intent to try and rid himself of the infestation. He was not judged to require involuntary detention. A detailed assessment was sent to his GP, alerting them to the problem and describing what actions to take should there be concerns about an increase in EM's risk of self harm.

MCQs

1. Delusional infestation is classified in ICD 10 (5) as which type of disorder?

- (a) Hypochondriacal disorder
- (b) Organic delusional disorder
- (c) Somatization disorder
- (d) Obsessional thoughts
- (e) Persistent delusional disorder

2. The core symptom of delusional infestation is the patient's belief that they have been infested by a harmful organism. Which of the following is not a feature of a delusion?

- (a) Fixed and unshakable
- (b) Consistent with religious beliefs
- (c) Held in the face of evidence to the contrary
- (d) Not culturally appropriate
- (e) False

3. In a general hospital, to which specialty are cases of delusional infestation most likely to be referred?

- (a) Microbiology
- (b) Dermatology
- (c) Clinical Psychology
- (d) Endocrinology
- (e) Liaison Psychiatry

4. In the assessment of a patient with suspected delusional infestation, which of the following is not appropriate?:

- (a) Challenging the patient's beliefs
- (b) Assessing the risk of self harm
- (c) Establishing the past medical history
- (d) Enquiring about substance misuse
- (e) Reinforcing the patient's beliefs

5. A contributory factor in delusional infestation can be pruritus. Which of the following is not a common cause of pruritus?:

- (a) Thyroid disease
- (b) Diabetic neuropathy
- (c) Cocaine use
- (d) Tricyclic antidepressants
- (e) HIV infection

Answers

1. Correct Answer: (e). This is a group of disorders in which long-standing delusions are the only or most prominent symptom. The delusions can be highly variable. In delusional infestation, the patient believes that they have been infested by a harmful living organism.

- (a) The main feature of hypochondriacal disorder is a persistent preoccupation with the possibility of having a serious physical illness, but this conviction is not held with delusional intensity.
- (b) The main symptom of organic delusional disorder is persistent delusions, however, unlike in persistent delusional disorder, these are secondary to another condition impacting on the brain, such as primary cerebral disease, somatic illness or metabolic dysfunction.

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(c) The main features of somatization disorder are multiple, recurrent and frequently changing physical symptoms despite repeated negative findings and reassurance by health professionals that the symptoms have no physical basis. The patient's concerns are not held with delusional intensity.

(d) Obsessional thoughts repeatedly enter the patient's mind in a stereotyped form. They are usually distressing and the patient often tries, unsuccessfully, to resist them. Unlike delusions, the thoughts are recognised by the patient as their own.

2. Correct Answer: (b) Culturally appropriate religious beliefs are not delusional. They may be held with an element of doubt, and insight by the individual that they may not be shared by others.

(a) A delusion is held without an element of doubt.

(c) It is held in the face of logical argument or incontrovertible evidence to the contrary.

(d) A delusion is not explicable by an individual's cultural, social or educational background.

(e) It is a false belief, often demonstrably so.

3. Correct Answer: (b) Cases of delusional infestation are most likely to be seen by Dermatology. Less often, cases may be referred to other specialties to investigate the possibility of infection (e.g. (a) Microbiology) or underlying physical illness that might cause pruritus (e.g. (d) Endocrinology). Patients are often reluctant to be referred to (e) Liaison Psychiatry or (c) Clinical Psychology services.

4. Correct Answer: (e) Assessors should avoid colluding with a patient's delusions and thereby reinforcing their convictions. However, it is appropriate to tactfully challenge the beliefs to establish whether they are delusional in nature.

5. Correct Answer: (d) Tricyclic antidepressants are occasionally prescribed as antipruritic medications, because of their antihistaminergic effect. Withdrawal from stimulant drugs, such as (c) cocaine can cause itching. Pruritus is also associated with a range of medical conditions, including (a), (b) and (e).

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NEUROIMAGING IN DEMENTIA

M Jadeja, N Poole



Abstract

Dementia is defined as an acquired condition involving impairment in two or more cognitive domains, which are sufficient to interfere with activities of daily living (1).

In Alzheimer's and vascular dementia, memory impairment is one of the most common deficits, but other domains such as language, praxis, visual-spatial and executive functions are often involved. In the less common form of frontotemporal dementia, there may only be changes in personality and behavior, and difficulties with language.

The diagnostic criteria require there must impairment in two or more of the cognitive domains plus the loss of function in the activities of daily living.

It is a clinical diagnosis but neuro-imaging represents an essential part of the diagnostic work-up. The two common imaging modalities used are Computer tomography (CT) and Magnetic resonance imaging (MRI). Exclusion of treatable cause of dementia e.g. a tumor or subdural hematoma, can be ascertained by using CT.

But MRI can demonstrate positive disease markers (e.g. hippocampal atrophy for Alzheimer's disease (1) . A Dopamine transporter (DAT) scan is also used to help differentiate between Lewy Body Dementia and Alzheimer's' dementia. Therefore, imaging offers important information on the nature of the underlying brain changes.

Neuroimaging In Dementia Teaching & Training

Foundation doctors typically encounter the common types of dementias and request imaging to support the diagnosis, but often lack confidence in the interpretation of the neuroimages.

Types of dementia

There are two broad categories of dementias. The first is a cortical dementia, which mainly involves the cerebral cortex (2). These include Alzheimer's disease and Creutzfeldt-Jakob disease.

The second, is a subcortical form, which primarily affects the basal ganglia, thalamus and deep white matter (2). Here, examples include vascular dementia, Parkinson's disease dementia, AIDS dementia, progressive supranuclear palsy, wilson's disease and huntingdon's disease.

The clinical symptoms that occur in the cortical dementias include agnosia, apraxia, amnesia (caused by deficits in memory storage rather than retrieval, aphasia and visuo-spatial disorientation (3). In subcortical dementia patients often show psychomotor slowness and rigidity of thinking, known as bradyphrenia whereby, they display slowed thought processes.

Although forgetful, patients with subcortical dementias have difficulty recalling information rather than with storage. Therefore, on memory testing their ability is significantly improved by prompts and clues, which is not the case in cortical dementias (3).

Investigations

Hematology and biochemistry

The following are recommended tests in patients with dementia to exclude reversible causes: full blood count, Urea and electrolytes, liver function tests, vitamin b12 and folate, thyroid function tests, syphilis and HIV.

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In some cases additional tests are recommended in specific circumstances, i.e. cerebrospinal fluid analysis, paraneoplastic antibodies and electroencephalography, with the latter investigating for encephalitis (2).

Imaging

As mentioned, CT and MRI are the two primary modalities of choice. However, in the clinical setting other types of scans such as Positive Electron Tomography (PET), amyloid and Dopamine transporter (DAT) scans may also be encountered. The latter is increasingly used to distinguish between Lewy Body Dementia (LBD) and Alzheimer's dementia (AD). In LBD there is dopaminergic nigrostriatal degeneration and a DAT scan is able to detect this dopaminergic deficit. The loss of dopaminergic neurons in LBD can be confirmed with Ioflupane, a pre-synaptic dopamine transport marker.

Alzheimer's disease (AD)

This is the most common cause of dementia as it accounts for two thirds of all cases (1). It is associated with age, genetic predisposition associated with mutations of APP (amyloid B protein precursor), and Down Syndrome. Additionally, there is also familial AD. This is associated with the genetically dominant PS (presenilin) -1 and PS-2 genes. The disease is a consequence of accumulated abnormal B amyloid leading to secondary neuronal injury and accumulation of tau in neurofibrillary tangles (2).

Typically patients with Alzheimer's disease initially present with a failure of anterograde episodic memory. Patients and their family complain of forgetting recent personal and family events, losing items around the house, and repetitive questioning (1). Hence, delayed recall (e.g. name and address after 5 minutes) is the most sensitive measure of early AD. Typically patient's presenting with AD perform well on the test of working memory – that is the ability to retain new information for a few seconds, and also the digit span (4).

As the disease progresses, visual and perceptual difficulties begin to emerge. Apraxia occurs affecting tasks such as dressing and eating. Language skills decline (anomia, the inability to name animals and objects, is a classic early sign) as the condition progresses. Reading, writing and calculations become difficult.

Further progression of the disease results in impairment of the semantic memory (word-meaning and general knowledge) and verbal fluency. Remote memory for famous faces and events is impaired and shows a gentle temporal gradient (2), that is, distant memories are relatively preserved compared to more recent ones.

Structural imaging is performed to support the clinical diagnosis and to identify the earliest and most specific changes that would allow a diagnosis of Alzheimer's disease (2).

On structural neuroimaging with T1 weighted MRI, findings include medial temporal lobe and hippocampus atrophy which is shown to be progressive on serial imaging. A study conducted by Braak and Braak demonstrated damage beginning in the entorhinal cortex, spreading to the hippocampus, and subsequently to the rest of the cortex (8).

The research showed that early sites of tau deposition and MRI based atrophic changes lie along the polysynaptic hippocampal pathway, which is consistent with the observed early deficits in memory (9, 10). Later, atrophy in the temporal, parietal and frontal neocortices is associated with neuronal loss, as well as language, praxis, visuospatial and behavioral impairments (11).

A yearly decline in the hippocampal volume approximately 2.5 times greater in patients with AD than in normal aged subjects is reported and a relationship is apparent between memory loss and hippocampal damage (2). It is important to bear in mind that there are other causes of atrophy, e.g. ischemia, and therefore, these are not diagnostically specific, but sensitive.

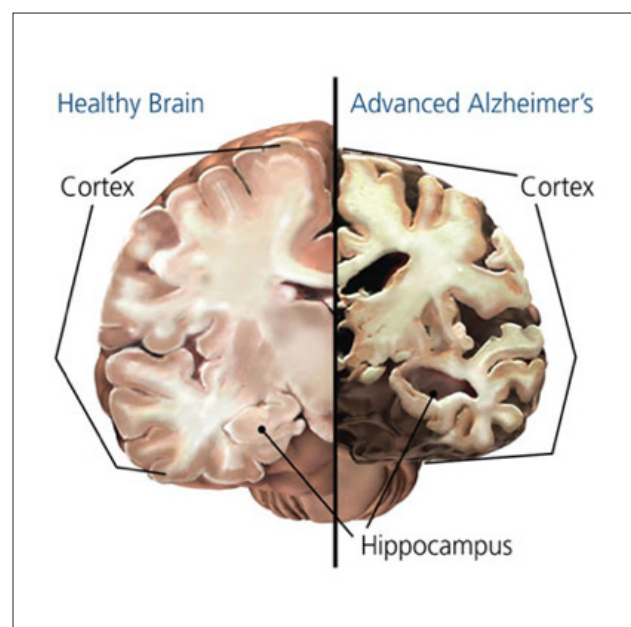


Figure 1: Anatomical image illustrates cortical and hippocampus atrophy.

NEUROIMAGING IN DEMENTIA

M Jadeja, N Poole

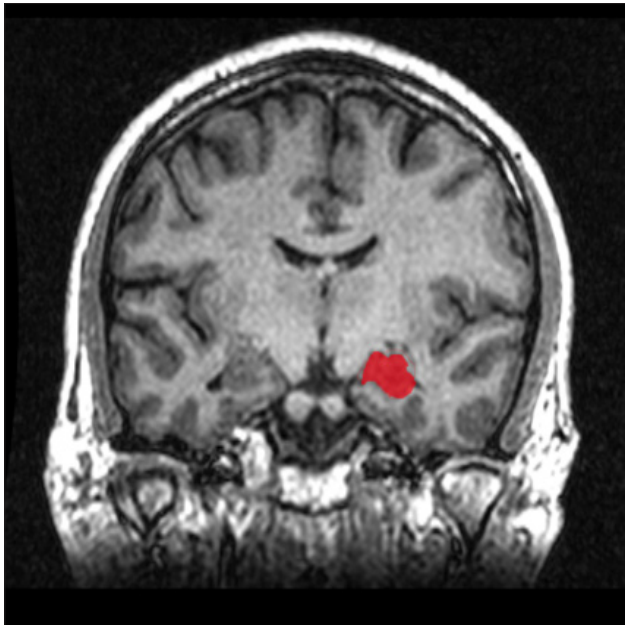


Figure 2: MRI in coronal plane showing a normal hippocampal volume in red.

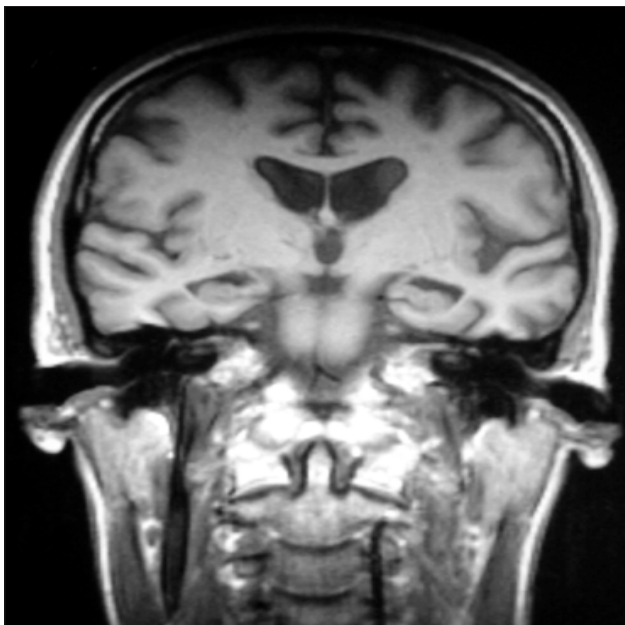


Figure 3: MRI scan showing cortical atrophy and bilateral hippocampal atrophy.

Vascular dementia (VaD)

Vascular dementia is the second most common type of dementia after Alzheimer's disease. There are different types based upon the location and distribution of the affected vessels. These include small vessel disease, which is the most common, large vessel disease and strategic infarct vascular dementia.

The brain requires oxygen supplied by blood via the vascular network to function normally. If the vessels are damaged, blood may not be able to reach the brain cells and consequently the cells may die of oxygen starvation triggering the onset of vascular dementia.

This type of dementia is assumed to be secondary to cerebrovascular disease. Thus a diagnosis of vascular dementia is made by the presence of cognitive change from the medical history and examination while demonstrating that the patient had vascular events sufficient to produce a change in cognition (1).

Clinically, these patients may present with multiple infarcts that are accumulated in a stepwise fashion, and hence, deterioration is similarly stepwise rather than gradual. The clinical picture can be variable depending on the site of infarct. If the deficits occur in the thalamus, basal ganglia or internal capsule, then patients may present without a sudden deterioration, but rather manifesting as impaired attention and poor executive function (2).

The location of the infarct can be identified with brain imaging and is also required for a diagnosis for vascular dementia according to the NINDS-AIREN criteria (2). Here, it can help to distinguish between the two common types of vascular dementias seen in old age psychiatry:

Small vessel disease

This involves the perforating cerebral arterioles, capillaries and venules and results in brain damage to the cerebral white and deep grey matter in addition, to the basal ganglia (6). Lesions are multiple, diffuse or extensive. (NB. Extensive subcortical white matter lesions are also referred to as Binswanger's disease).

On imaging, white and deep grey matter hyperdensities on T2-weighted images are generally considered markers of ischemic small vessel disease (1). Other features include hemorrhages, lacunes, which are fluid-filled cavities thought to reflect old infarcts, micro bleeds, and brain atrophy (5).

NEUROIMAGING IN DEMENTIA

M Jadeja, N Poole

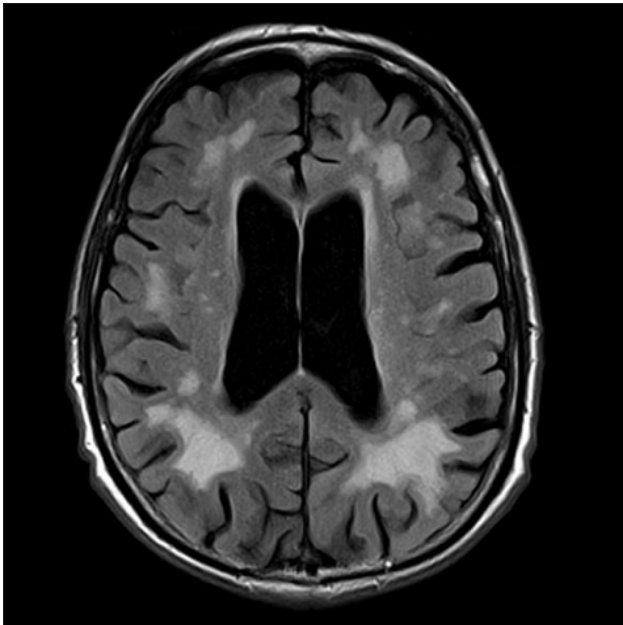


Figure 4. MRI scan showing white matter small vessel ischemic change and microhemorrhages.

Large vessel disease

This sub-type of vascular dementia affects the anterior, medial, posterior cerebral arteries and the watershed territories. Marked hypodensities on T2-weighted MRI images usually represent tissue destruction and are a marker for complete infarcts (1).



Figure 5: Para-sagittal plane of a T1-weighted scan highlighting a hypodensity in the parietal-temporal region. The hypodensity on a T1-weighted image illustrates tissue destruction by a complete infarct.

Lewy Body Dementia (LBD)

Other types of dementias foundation doctors may encounter include, Lewy Body Dementia with and the related Parkinson's disease dementia.

In Lewy Body Dementia, the clinical picture often entails visual hallucinations, parkinsonism and fluctuating attention. On neuroimaging, parieto-occipital atrophy may represent an indicator of Lewy Body Dementia (2). But a DAT scan can easily help differentiate LBD from AD.

There is reduced striatonigral uptake on DAT scan, reflecting dopamine deficiency, a finding typical of DLB. Patients with Parkinson's dementia display symptoms that are similar to those of dementia with Lewy bodies, although motor Parkinson's symptoms typically predate cognitive and neuropsychiatric symptoms (7).

On imaging, narrowing of the substantia nigra pars compacta can be heavily seen on T2-weighted MRI scans. This is shown on a tracer study with decreased striatal uptake.

Furthermore, patients with Parkinson's disease dementia have more severe hippocampal atrophy than patients with Parkinson's without dementia and less severe cortical atrophy than in patients with AD (2).

Other types of dementia

Other less commonly encountered types of dementia include Aids dementia complex, supranuclear palsy, wilson's disease and huntingdon's disease.

In patients with AIDS who have a CD4 count less than 400, central nervous infection occurs leading to HIV-1 encephalitis (HIVE). The global brain atrophy with periventricular circumscribed or confluent white matter lesions is best seen on a T2-weighted MRI image. The grey matter is almost completely unaffected (12).

Supranuclear palsy patients present with falls, often backwards, and mild symmetrical parkinsonism and difficulty looking down followed by an upgaze palsy.

On MRI there is midbrain atrophy, dilatation of the third ventricle and superior cerebellar peduncle atrophy. In the mid sagittal plane, this appears as a 'hummingbird' and in the axial plane as the 'mickey mouse' sign.

NEUROIMAGING IN DEMENTIA

M Jadeja, N Poole

In Wilson's disease, where the liver fails to excrete copper, the patient may present in childhood with liver failure or in adulthood with neuropsychiatric symptoms. Excess copper accumulates in the cornea, known as a Kayser-Fleischer rings, and in the basal ganglia. This results in ataxia, parkinsonism, tremor, depression, personality changes and dementia. MRI is often abnormal and features can be diverse, but high signal lesions are seen in T2-weighted imaging which involve the basal ganglia and white matter (1).

Huntingdon's disease is an autosomal dominant condition caused by Expansion of a CAG (cytosine-adenine-guanine) triplet repeat stretch within the Huntingtin gene results in a different form of the protein, which gradually damages cells in the brain. It is the commonest genetic disorder to cause dementia.

Clinically, the patients present with mood disorder and a slow deterioration of intellectual function and as the disease progresses, extra-pyramidal symptoms are displayed such as chorea with dystonia and parkinsonism (1). MRI findings are of cortical thinning and striatum, caudate nucleus and putamen atrophy. This results in enlarged ventricles due to volume loss of the putamen and caudate.

Summary and Conclusions

Neuroimaging does not give diagnosis but provides useful information that can be used alongside collateral history, examination, and cognitive testing. FY doctors will commonly see patients presenting to hospital in early and late stages of dementia. Previously, some patients may have had a brain scan and it would be useful to compare for any interval changes that could explain the patient's symptoms. Neuroimaging can be cautiously interpreted but must be discussed with a senior neuro-radiologist.

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CASE REPORT: NEUROLEPTIC MALIGNANT SYNDROME

R Shrestha, S Appavoo

Case Report: Neuroleptic Malignant Syndrome Patient Management

Abstract

A case discussion about a 19 year old female on antipsychotics and lithium for schizoaffective disorder who developed Neuroleptic Malignant Syndrome (NMS).

NMS is a very uncommon but a life threatening complication of antipsychotic medications. This is characterised by hyperthermia, autonomic disturbances, muscle rigidity, altered consciousness and elevated creatine kinase. In this case the combination of antipsychotics and lithium lead to the patient developing this condition. The mainstay of treatment remains supportive care and stoppage of offending medications.

Case

The case is about a 19 years old female who was admitted with signs and symptoms of NMS.

She had a background of pervasive developmental disorder and schizoaffective disorder and was being treated with lithium 1200 mg once a day and risperidone 2mg once daily. She attends a special school and her medications are supervised by the staff in her school.

Risperidone had been at 4mg but decreased to 2mg daily due to high prolactin levels, this was around 4 months prior to the development of catatonia.

The month she was admitted she was at home on her summer break during this period she was taking her medications on her own. Two weeks into her break, she started to become paranoid stating that her right hand was dead and that she had no heartbeat. The development of these symptoms had led to attend A&E were her psychotic symptoms thought to have relapsed and consequently, risperidone was increased to 2mg twice a day.

However her condition deteriorated even further which required admission to our acute mental health ward. This time she had additional symptoms of altered consciousness, startled facial expression, flushing, drooling of saliva and hyperthermia (38.4°C).

Her blood pressure was mildly elevated at 130/89 mm Hg and heart rate was 82 beats per minute. She had maintained an extensor posture of her body with lead pipe rigidity and flexor plantar response. Blood test showed leucocytosis, creatine kinase (CK) of 783 U/L and lithium level was within the normal limits.



She was suspected to have developed NMS so lithium and risperidone were stopped. Following which she was commenced on lorazepam 1mg twice daily, paracetamol and IV fluids. She was initially kept in the Acute Medical Ward and later on with the decrement in level of CK from 783 to 561 U/L she was transferred back to the psychiatric ward.

During her admission she was gradually improving and on the 10th day of admission, CK dropped to 385 U/L. Within 2 weeks, her NMS symptoms had subsided. Following which 2.5mg of olanzapine was cautiously introduced. This was later increased slowly to 12.5mg, in addition of sodium valproate 300mg twice daily to manage the psychotic symptoms.

Conclusion

There are a few factors that have possibly contributed to the development NMS. Firstly, the combination of lithium and risperidone, which are linked with NMS. The patient's condition improved after stoppage of these medication.

Secondly, she was taking her own medications at home whereas if she was at school then she would have been supervised and we could argue about whether she was taking the right dose. The mainstay of treatment are removal of the offending agents and supportive therapy which includes rehydration and benzodiazepine for catatonia.

Discussion

Neuroleptic Malignant Syndrome (NMS) is a life threatening condition which requires urgent medical treatment. It is characterised by a distinct clinical features of hyperthermia, altered mental status, muscle rigidity and autonomic dysfunction (1). It is associated with use of both first and second generation antipsychotics.

However, with second generation antipsychotics, the symptoms might be different i.e. the extrapyramidal features might be milder or may have high fever (2). The systematic review of Risperidone induced NMS showed that patients are highly likely to have typical features (3).

CASE REPORT: NEUROLEPTIC MALIGNANT SYNDROME

R Shrestha, S Appavoo

It has been known that combination of lithium and antipsychotics increases the risk of NMS. Lithium has been known to be neurotoxic even in its therapeutic range (3). Cases have also been reported with use of antiemetics like metoclopramide (4).

However, it's difficult to predict when the syndrome might occur as it can occur following single dose. In others, it has occurred after many years on the stable dose. A link has been found between rapid increase in the dose and its occurrence. The role of genetic predisposition is not clearly understood.

The clinical features of NMS is comprised of four core features – change in mental state, autonomic dysfunction, muscle rigidity and hyperthermia (5). The symptoms of delirium can often be mistaken for psychotic symptoms because of the pre-existing psychotic illness.

Catatonia and mutism are often associated. The muscle rigidity is usually generalised and the lead pipe rigidity is due to the increased tone of the muscle. Temperature of more than 38°C is often seen as part of the syndrome. Another prominent feature includes autonomic dysfunction which leads to a range of symptoms – high or fluctuating blood pressure, tachycardia, and excessive salivation.

Though NMS is an acute condition, it does not have a definite laboratory test to aid diagnosis. Most of the investigations are done to rule out the differentials and to monitor complication. High rise in creatinine kinase has been associated with NMS. There is a correlation between rise in CK and muscle rigidity. As defined by case control study, it was found that patients with high CK level in non-NMS state were at higher risk of developing NMS (6). It tends to normalise with the improvement of the condition.

Other lab features includes leucocytosis and deranged renal function such as rise in urea and creatinine caused by dehydration or myoglobinuria causing acute renal failure. Brain imaging (CT, MRI) and lumbar puncture can be done to rule out the infectious process.

The first step towards management is to stop the causative agents that are linked to NMS. The mainstay of management remains institution of supportive therapy – IV fluids, paracetamol to bring the temperature down and benzodiazepines as muscle relaxant.

The efficacy of specific therapy i.e. dantrolene and bromocriptine is disputed. A study was done which showed early clinical recovery following use of these medications (7). Dantrolene is a direct-acting skeletal muscle relaxant. It helps to reduce heat production and improves muscular rigidity. It is continued for 10 days with slow tapering of the dose to minimise the risk of relapse (5). Bromocriptine is a central dopamine agonist which is available only in oral form.

ECT is the mainstay of treatment in severe catatonia or when patient fails to respond or is partially responding to pharmacotherapy (9). It supposedly increases brain dopaminergic activity.

Following a successful treatment of NMS, either with medical or only supportive therapy, the challenge remains restarting neuroleptics without precipitating another episode. The risk factors for recurrence seems to be early initiation of neuroleptics, higher doses and concomitant use of lithium (10, 11). Usually, it's advisable to wait until there is clinical improvement or at least 2 weeks (whichever is longer). It is recommended to use start low and go slow approach with the alternative antipsychotic.

MCQs

1) Which laboratory test helps in the diagnosis of NMS?

- a) CRP (C-reactive protein)
- b) ESR
- c) Full blood count
- d) Drugs blood level
- e) Creatine kinase

2) What is the initial step in management of NMS?

- a) Rehydration
- b) Increase antipsychotic dose
- c) Stop antipsychotic
- d) Give benzodiazepines
- e) ECT

3) Which is the second generation antipsychotic drug?

- a) Risperidone
- b) Haloperidol
- c) Prochlorperazine
- d) Fluphenazine
- e) Chlorpromazine

4) What are the core symptoms for diagnosing NMS?

- a) increased salivation, slurred speech, right arm weakness
- b) visual hallucination, hyperthermia, productive cough
- c) change in mental state, autonomic dysfunction, muscle rigidity and hyperthermia
- d) persecutory delusion, third person auditory hallucination, muscle rigidity
- e) disoriented, increased sleepiness, memory decline

5) What are the risk factors for recurrence of NMS?

- a) using alternative antipsychotic
- b) avoiding the same antipsychotic
- c) avoiding concomitant use of lithium
- d) early and higher dose of antipsychotic
- e) use of antipsychotic once patient is clinically improved

CASE REPORT: NEUROLEPTIC MALIGNANT SYNDROME

R Shrestha, S Appavoo

Answers

1) Answer: e) Rise in creatine kinase.

It helps in the diagnosis of NMS. Its rise is attributed to increased muscle rigidity. Sometimes increased use of IM route for medication can rise CK.

2) Answer: c) stop antipsychotic.

This is the most important step which helps to prevent further deterioration. Following this, symptomatic management takes the upperhand which includes rehydration to prevent renal failure, benzodiazepine for muscle relaxation. Specific treatment with dantrolene can be used. ECT forms the last resort if previous attempts fail to improve the symptom or if condition is worsening.

3) Answer: a) Risperidone.

First generation (typical) antipsychotic act predominantly by blocking dopamine D2 receptors in the brain whereas second generation (atypical) antipsychotics act on a range of receptors compared to first-generation antipsychotic drugs like Dopamine receptors D1, D2, D3, D4, D5 and various serotonin / 5HT receptors .

4) Answer: c) change in mental state, autonomic dysfunction, muscle rigidity and hyperthermia.

These are the core symptoms of NMS. It is important to rule out organic causes like infection with the help of laboratory investigation and imaging before NMS is considered.

5) Answer: d) early and higher dose of antipsychotic.

The risk factors for relapse are early commencement of same or similar antipsychotic at higher doses with concomitant lithium. So to avoid relapse, antipsychotic should be used when patient has improved clinically. It is always better to go for different antipsychotic at low dose and increasing gradually.

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PHYSICAL ILLNESS IN THE PSYCHIATRIC PATIENT - THE JUNIOR DOCTORS APPROACH

I Mirza, O Ahmed



Physical Illness In The Psychiatric Patient - The Junior Doctors Approach Good Clinical Care

Introduction

The estimated prevalence of mental health problems in the community is 1 in 4 people (1), increasing to 41.3%-46.5% in the general hospital setting (2). Patients with mental illness suffer more frequently from physical health problems, and those with severe mental illness have a shorter life span than the general population (3).

Schizophrenia, unipolar depressive disorder, bipolar depressive disorder and schizoaffective disorder all carry an excess mortality as compared with people with no mental illness (4). A twenty five year prospective cohort study found that those with schizophrenia had double to triple the risk of physical health problems compared to the general population, with a suggestion that cardiovascular mortality is particularly concerning (5).

Throughout their training, foundation doctors will encounter patients with mental illness at accident and emergency departments, general practice, psychiatry, and medical wards such as gastroenterology and care of the elderly. Therefore, they need to be aware of the increased risk of physical health issues in this population, along with how to screen and intervene in order to reduce morbidity and mortality. This article focuses on this issue.

Recognition

The increased morbidity and shorter life span of patients with severe mental illness can perhaps largely be accounted for by two main factors. Firstly there is an increased exposure to modifiable risk factors for poor health (6). These include tobacco use, alcohol and drug misuse, risky sexual behaviours and obesity. This results in greater incidence of cardiovascular disease, diabetes, respiratory disease and infections (6).

Secondly there are major disparities between healthcare provision for mentally ill patients compared to the rest of the population (7). Patients with schizophrenia are twice as likely to suffer an unforeseen death in hospital (8), similarly psychotic patients suffering from stroke or ischemic heart disease are less likely to receive guideline consistent treatment (9).

Cardiovascular disease is the largest contributor to morbidity and mortality in mentally ill patients (10). A study examining autopsy findings in psychiatric inpatients with schizophrenia found acute myocardial infarction to be the most common cause of death (52.9% of patients), followed by pneumonia and airway obstruction (11). This cardiac vulnerability has been postulated to be due to the use of antipsychotic medication and unhealthy lifestyle.

The use of typical and atypical antipsychotics is associated with increased risk of sudden cardiac death (12) and also increases modifiable risk factors for cardiovascular disease such as hypertension, hyperglycaemia and diabetes (13). These form part of the metabolic syndrome - major characteristics of which include central obesity, hypertension, dyslipidaemia, glucose intolerance or insulin resistance.

Alcohol abuse has long been associated with poor mental health. Patients abusing alcohol frequently find themselves in Emergency departments, or with long term misuse, in the gastroenterology ward due to liver problems (14). Such patients may present challenging behaviours, or have difficulties with effective communication. It is important to take a holistic approach, both in order to identify physical problems, as well as identify mental health problems associated with alcohol abuse.

A cross sectional study across primary care in Europe revealed that only 22.3% of alcoholics received treatment, and these were the severe end of the spectrum (15). Nutrition amongst mentally ill patients is also poor. It is important therefore to remain vigilant for physical stigmata of malnourishment such as conjunctival pallor, glossitis, poor oral health, wasting and skeletal weakness. This is especially relevant when it comes to detoxification from alcohol dependence, as malnourished patients are at increase risk of developing Wernicke-Korsakoff syndrome. These patients should receive parental as well as oral thiamine supplementation (16).

Respiratory disease is also widespread amongst mentally ill patients. This is perhaps as a result of tobacco smoking, illicit substance misuse, or social problems leading to adverse living conditions. Infections such as pneumonia are common and can have a markedly worse outcome than in patients who do not suffer from psychiatric problems. (17).

PHYSICAL ILLNESS IN THE PSYCHIATRIC PATIENT - THE JUNIOR DOCTORS APPROACH

I Mirza, O Ahmed

Screening and Intervention

Public Health England (PHE), NHS England, NHS Improving Quality and the National Audit of Schizophrenia (18) have co-produced an updated version of the Lester UK adaption of the positive cardio-metabolic health resource guidance for healthcare and public health professionals to help improve the physical health of people with mental illness. It is a downloadable resource which provides a framework for interventions to:

- improve quality of diet and nutrition
- access smoking cessation services
- increased physical activity if a patient is overweight
- monitoring the effects of antipsychotic medication on a patient's physical health

Regular monitoring and thorough physical checks are required in order to recognise and manage risk early. The NICE guidelines advocate regular blood tests, general observations, weight and waist measurements, as well as an ECG for all patients starting antipsychotics. The secondary care team is responsible for the patients' physical examination for the first year or until the patient is stable, thereafter primary care takes over (14).

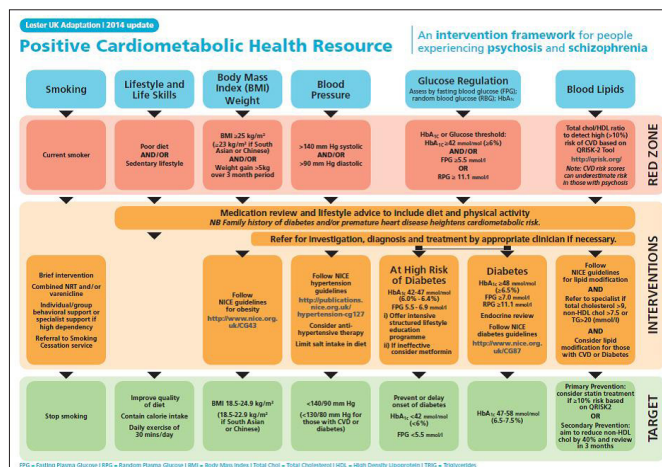


Figure 1

Schematic showing interventions for psychosis and schizophrenia from the Lester UK Adaptation 2014 update. Psychiatrist, GP and patient to liaise to ensure interventions are provided. The GP is to lead the provision of physical health interventions.

Behavioural interventions that focus on diet and exercise are effective. Dietary interventions consist of promoting healthy eating behaviours. These include cutting down on fast food, food items with a high glycaemic index and monounsaturated fats, as well as decreasing intake of processed food. Aside from cutting down, patients are encouraged to increase their intake of healthy food items (fruits, vegetables, fish), make healthy snack choices and control portion size.

This is frequently achieved by consuming 4-6 small meals per day, eating more slowly and minimizing intake of sugar by using artificial sweetener. Education about diet is also important, as is reading food labels, keeping a food diary and learning to discern differences between physiological and psychological appetite.

Interventions to increase exercise consist of keeping activity diaries, daily activity lists, and performing moderate physical activity such as walking, as well as reducing sedentary behaviours. This can be improved by ensuring that sedation is minimised as well as managing the extrapyramidal effects of medications. These interventions have a significant impact on overall health and are summarised in Table 1 below.

Intervention	Impact on overall health
Maintenance of ideal body weight	35-60% ↓ in CHD
Weight loss by (%)	
4-5%	Eliminate the need for antihypertensive medication in adults and elderly
5-7%	58% reduced risk for type 2 DM in adults
6-7%	Improvement of the MetS by decreasing LDL-cholesterol and fasting insulin
10%	Reduction of lifetime risk for heart disease up to 4% and increase of life expectancy up to 7 months
10% ↓ in blood cholesterol	30% ↓ in CHD
4-6 mm Hg ↓ in high BP (>140/90 mm Hg)	16% ↓ in CHD and 42% ↓ in CVA
Stop smoking	50-70% ↓ in CHD
Maintenance of active lifestyle	35-55% ↓ in CHD (women)
(at least 30 min walk daily)	18% ↓ in CHD (men) 27% reduction in CVA 40-50% ↓ in risk of cancer 33-50% ↓ in risk of developing DM

Table 1: Impact of various interventions on overall health (19)
 † CHD - coronary heart disease; DM - diabetes mellitus; MetS - metabolic syndrome; BP - blood pressure; CVA - cerebrovascular accident. The arrow (↓) means reduction; eg. ↓ in CHD means a reduction in coronary heart disease.

PHYSICAL ILLNESS IN THE PSYCHIATRIC PATIENT - THE JUNIOR DOCTORS APPROACH

I Mirza, O Ahmed

Barriers to effective physical health care in those with mental health problems

There are a number of barriers to the delivery of good physical health care. Effective communication with psychiatric patients in a general hospital setting can be difficult. This is multifactorial. Doctors may be busy and unwilling or unable to devote enough time to carry out a proper consultation.

Furthermore they may lack the relevant communication skills to engage with a psychiatric patient who has difficulty comprehending advice. Stigmatisation of mental illness as well as clinicians' belief that those with mental health problems are unlikely to adopt healthy lifestyles may be a factor. Patient factors include lack of social skills, difficulty comprehending advice and being suspicious of services –all these may contribute to poor access to services.

As mentioned above effective communication is one of the biggest barriers in managing the physical health of psychiatric patients. Greater clinical experience is ultimately the best way to improve communication skills, however the following five concepts could guide clinicians: having a patient centred approach, having positive regard and respect for the patient, ensuring mutual decision making, genuineness and the use of a psychological treatment model (20).

A thorough physical examination is essential to proper care of the psychiatric patient. This area is often ignored in psychiatric practice as it is assumed that another physician has examined the patient already (21). In psychiatry jobs in particular, Foundation Year doctors are likely to have more current teaching and experience of physical examination than their senior colleagues, and therefore could have a key role in bridging this gap in healthcare.

What are the main risk factors increasing risk to his health?

Answers

1. *Having a major mental illness*
2. *Lack of engagement with health services.*
3. *Being prescribed atypical antipsychotic medication which has an association with metabolic syndrome.*

Clinical Scenario

Mr AG is a 50 year old man who has been on olanzapine for the last 2 years. He is reluctant to take medication but does so as at the insistence of his wife. He refuses to attend follow up appointments with his GP or the mental health team as he feels stigmatised whenever health professionals start the conversation by talking about his diagnosis of schizophrenia, rather than asking him about his current concerns.

What are the main risk factors increasing risk to his health.

Answers

1. *Having a major mental illness*
2. *Lack of engagement with health services.*
3. *Being prescribed atypical antipsychotic medication which has an association with metabolic syndrome.*

He has gained 15kg of weight over the past two years and thinks it is due to having reduced energy to exercise. He wants to lose weight and is restricting his calorific intake with the help of a dietician. He finds that cigarettes suppress his appetite and is smoking 15 a day to help cut down his weight.

Based on this information, what is the change in the risk to his health?

Answers

Both weight gain and tobacco smoking have significantly increased the risk of cardio vascular disease. Table 1 shows the impact of interventions to reduce these risk factors.

Recently, he started experiencing headaches which progressed to blurred vision and nocturia. He is concerned this may be due to prostate problems. Reluctantly he consulted his GP who performed routine blood tests, glucose, lipid profile and blood pressure measurements. He is found to have a BMI of 30, as well as diabetes, and high blood pressure.

PHYSICAL ILLNESS IN THE PSYCHIATRIC PATIENT - THE JUNIOR DOCTORS APPROACH

I Mirza, O Ahmed

Has GP followed the Lester UK adaption for managing cardio metabolic risk.

Answer

GP did not deliver behavioural interventions such as advice about smoking cessation, improving quality of diet, and maintenance of active lifestyle.

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CASE BASED DISCUSSION: OBSESSIVE COMPULSIVE DISORDER IN THE GENERAL HOSPITAL

E Wilson, J Bolton



Case Based Discussion: Obsessive Compulsive Disorder In The General Hospital Patient Management

Case 3

BL, a pregnant mother of three children, described to her midwife the recent onset of recurrent unwanted thoughts about harming her children. These thoughts were not associated with any intent to harm. The anxiety provoked by these thoughts prevented BL from engaging in childcare. In order for her to feel safe, she required her husband to be with her at all times.

Why is it important to recognise OCD?

OCD is ranked by the World Health Organization in the top ten most disabling illnesses by loss of income and decreased quality of life (1.) Approximately one in every 50 people suffer from OCD at some point in their lives. (2) The cases described feature situations where OCD had an adverse effect on a patient's quality of life and healthcare.

What is OCD?

A knowledge of the key features of OCD can help healthcare practitioners support patients with the illness.

OCD has three main features:

Recurrent unwanted thoughts (obsessional thoughts);

The anxiety associated with these thoughts, particularly if an individual tries to resist them;

The repeated actions that an individual undertakes to reduce their anxiety (compulsive rituals) (2).

An individual recognises that the obsessional thoughts arise from their own mind, but are unwanted, unpleasant and cause anxiety if they are resisted. (3) As in the case of BL, obsessional thoughts may occur without associated compulsive rituals. The obsessional thoughts and compulsive rituals of the three patients described are listed in Figure 1.

Abstract

We describe three cases of obsessive compulsive disorder (OCD) in a general hospital. We highlight the importance of an awareness of the potential impact of OCD on patient care and its management in a non-psychiatric setting.

Case Histories

Case 1

TP, a retired nurse, was admitted following a stroke. TP appeared to be preoccupied with the possibility of becoming infected with a "superbug". His repeated cleaning of his bed, belongings and hospital equipment, and his repeated hand washing prevented him from engaging in a rehabilitation programme.

Case 2

PM, a man known to have OCD, was admitted to hospital following a fall from a ladder and sustaining multiple fractures. He described obsessional thoughts that something bad would happen to his family unless he carried out compulsive rituals, such as repeatedly adjusting the position of objects on his bedside table to ensure that that were all aligned. Not only did these rituals prevent PM engaging fully in rehabilitation, he was also concerned that his behaviour was annoying other patients.

CASE BASED DISCUSSION: OBSESSIVE COMPULSIVE DISORDER IN THE GENERAL HOSPITAL

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The relief of anxiety by performing compulsive rituals reinforces the behaviour, hence a vicious circle is set up, which maintains the illness (Figure 2). (4)

	Obsessional thoughts	Compulsive rituals
TP	Contamination with a "superbug"	Cleaning of objects before touching them and repeated hand-washing
PM	Something bad will happen to his family	Trying to achieve perfect alignment of objects
BL	Causing harm to her children	No associated rituals

Figure 1: Obsessional thoughts and compulsive rituals in cases described.

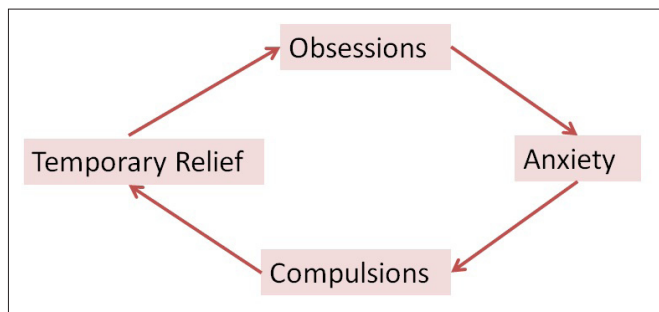


Figure 2: The vicious circle of OCD.

How can you screen for OCD?

- Do you wash or clean things a lot?
- Do you check things a lot?
- Is there any thoughts that keep bothering you that you would like to be rid of or can't?
- Do your daily activities take a long time to finish?
- Are you concerned about orderliness or symmetry?
- Do these problems trouble you?

Figure 3: NICE screening questions for OCD.

The National Institute for Health and Clinical Excellence (NICE) advocates the use of six screening questions for OCD (Figure 3). (5) These can be used by any healthcare practitioner to help detect an issue and initiate further assessment. The screening questions would probably have identified a problem in all three cases described.

How is OCD managed?

Management of OCD can be divided into psychotherapeutic and behavioural approaches. The main cognitive behavioural therapy (CBT) approach used to treat OCD is exposure and response prevention (ERP) (2). This focuses on breaking the vicious circle outlined in Figure 2.

Patients are encouraged to resist the urge to carry out their compulsive rituals and to endure that consequent anxiety, which eventually decreases. With repeated practice the anxiety gradually reduces and the cycle of reinforcement is broken.

PM had previously received CBT and he was encouraged to use the techniques he had learned during his admission. Three out of four people who engage in ERP improve significantly. (6) However one in four people with OCD cannot attempt it, due to the anxiety it provokes. (2)

SSRI antidepressants are used as first line pharmacological treatment for OCD. If these have not helped after three months then a trial of clomipramine is advocated (7). About six out of 10 patients improve with medication (2).

An SSRI was considered for TP because cognitive problems following his stroke made engaging in CBT difficult. BL was commenced on a combination of an SSRI and CBT, because of the severity of her OCD, the impact upon her family, and her pending delivery.

What is it like to have OCD?

PM spoke of his OCD as an externalised "bully" or "demon", which are common subjective descriptions of the illness (7). A sculpture in the Bethlem Hospital is a poignant representation of this idea (Figure 4). The "bully" depicted is adorned with symbols representing the obsessional thoughts and compulsive rituals of OCD, such as chains and a clock reflecting the time wasted through engaging in compulsive behaviour.

Patients with OCD are invited to deposit an object in the "bully's" receptacle; these objects are associated with their reassurance-seeking behaviours that impede recovery and maintain a cycle of anxiety and fear (7). For example, PM may have deposited a bottle of alcohol gel, which he used to repeatedly clean his hands.

CASE BASED DISCUSSION: OBSESSIVE COMPULSIVE DISORDER IN THE GENERAL HOSPITAL

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Figure 4: The 'OCD' Bully at Bethlem Hospital (reproduced with permission from the BMJ).

What is the impact of OCD on patients' lives?

At its most severe, OCD can make it impossible to work regularly and can damage close relationships (2). PM had lost his job because of his OCD. However many people with mild OCD improve without treatment and find their symptoms only occur at times of stress.

In all three cases described, stress caused by significant life events (a stroke, a serious accident and pregnancy) was an exacerbating factor in the patients' OCD. There is a high risk that the severity of an individual's OCD will increase during a hospital admission, due to the stress associated with illness and its repercussions.

It is a common misconception that an individual suffering from violent obsessional thoughts in the context of OCD is likely to feel compelled to commit a violent act. In the case of BL the midwives were concerned about the safety of her children. However such thoughts are usually abhorrent to the patient and they will spend large amounts of time and energy trying to resist them, with a very low risk of acting upon them (4).

Conclusions

OCD is common and disabling, but treatable. It is exacerbated by stress, including physical illness and hospital admission. In such circumstances it can impede healthcare and recovery. As a consequence, all healthcare practitioners should be aware of the symptoms of OCD and its management.

- NICE's simple screening questions can be easily used by any healthcare practitioner to screen for OCD.
- Patients in primary care or general hospital settings who are known to have OCD and have received CBT should be encouraged to use the techniques they have developed.
- OCD patients are very unlikely to act on obsessive thoughts relating to harming others.

Figure 5: Key Learning Points.

MCQs

1. The nursing staff on a medical ward have noticed that a patient is repeatedly asking them to escort him to the bathroom to wash his hands. If they are not able to help him immediately he becomes increasingly anxious. Of those listed, which is the most appropriate first course of action?

- a) Prescribe fluoxetine
- b) Ask the patient screening questions for OCD and refer to psychiatry if you are concerned
- c) Prescribe clomipramine
- d) Refer the patient for CBT
- e) Tell the nurses they need to help him wash his hands as often as possible

CASE BASED DISCUSSION: OBSESSIVE COMPULSIVE DISORDER IN THE GENERAL HOSPITAL

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2. A patient on your ward has previously received treatment for OCD. His symptoms have worsened following admission and he is becoming increasingly anxious and embarrassed. Of those listed, which is the most appropriate first course of action?

a) Encourage the patient to use CBT techniques that he has previously learned

b) Educate other patients on the ward about OCD and ensure they know how disabling it can be

c) Arrange for the patient to move to a side room.

d) Increase the dose of his fluoxetine

e) Explain that you don't know anything about OCD and that he should ask to see a psychiatrist when he is discharged

Answers

1. Answer: b)

NICE outlines six questions that can be used by healthcare practitioners to screen for OCD. If the diagnosis appears likely the patient should be referred to psychiatry for a full assessment and advice on management.

2. Answer: a)

It is likely the patient has already engaged in CBT for his OCD and may need encouragement to use the techniques he has learned in the unfamiliar setting of the hospital. It would be inappropriate to discuss the patient's condition with other patients without his explicit consent. However, it might be appropriate to educate the ward staff about his problem.

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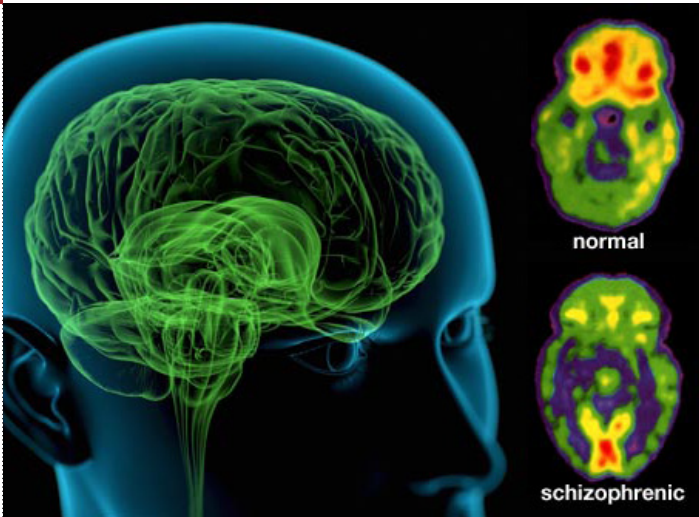
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TREATMENT RESISTANT SCHIZOPHRENIA - RARE SIDE EFFECT OF CLOZAPINE

C Hindler



Treatment Resistant Schizophrenia - Rare Side Effect of Clozapine Patient Management

*** Section 3 of the Mental Health Act, commonly known as "treatment order, allows for the detention of the service user for treatment in hospital based on the person suffering from mental disorder; that the mental disorder is of a nature or a degree which warrants care and treatment in hospital and that there is risk to their health and/or safety and/or risk to others.

Abstract

The case is of Ms A, a 35 year old woman suffering with treatment resistant Schizophrenia. Ms A was commenced on Clozapine which she had not previously been prescribed. Ms A's psychotic symptoms resolved but she then developed a rare side effect of renal failure. Ms A subsequently responded to relatively unorthodox treatment with two antipsychotic medications.

Presenting Complaint

Ms A was admitted to hospital following a relapse of florid psychotic symptoms. Ms A had been prescribed depot Haloperidol 100mg intramuscularly one week before admission.

History of Presenting Complaint

Ms A refused to let the Crisis Team into her home but they obtained a warrant under Section 135**. Ms A was then admitted under Section 3 of the Mental Health Act***. It was reported that Ms A's mental state had become acutely worse over the week leading up to the admission. There was no significant concern about her mental state at the time of her last depot injection 1 week previously and no obvious precipitants for the decline in her mental state.

Ms A was found to have been neglecting her personal hygiene, diet and fluid intake, and had been verbally abusive to her parents. According to her family these were indicators of relapse.

* Treatment-resistant patients with schizophrenia continue to have psychotic symptoms, such as delusions and hallucinations, after they have completed at least two rounds of conventional antipsychotic medications.

** Section 135 - police taking a service user to a place of safety from a private place

Past History

Ms A was detained under Section 3 of the Mental Health Act during three of her five previous admissions. Past treatment incorporated typical and atypical antipsychotic medications including depot Haloperidol and Clopixol, oral Risperidone and Haloperidol. Ms A's mother was of the opinion that none of the medications had proved of any sustained benefit. Ms A had also taken overdoses of medication.

Family history of mental illness: maternal uncle had treatment in mental health units, apparently diagnosed with Schizophrenia.

Forensic History

Ms A was involved in a road traffic accident in June 2008 resulting in the fatality of a passenger. Despite the likelihood that Ms A was mentally ill at the time, she was convicted of causing death by dangerous driving, imprisoned but received no psychiatric treatment.

Substance Use

Ms A smokes tobacco heavily when ill. She drinks regularly but prior to admission may have been self-medicating her symptoms with greater than usual amounts of alcohol, reportedly consuming about ¾ bottle of whisky per day.

Physical Health

No significant medical history.

Current Social Circumstances

Ms A has been living on her own in a caravan within the grounds of her parents' land. Her mother kept a regular check on Ms A's wellbeing. Ms A's parents are divorced. Both of her parents are supportive and are employed. Ms A has one brother. Ms A has no children and she was not in a current relationship.

TREATMENT RESISTANT SCHIZOPHRENIA - RARE SIDE EFFECT OF CLOZAPINE

C Hindler

Treatment and Progress

Ms A's displayed overt psychotic symptoms. She was observed giggling, screaming and laughing at unseen stimuli; excitable, disinhibited and behaving oddly. Her thoughts were muddled and disordered. Ms A acknowledged to hearing voices some of which were tormenting her, others of a friendly nature. Ms A reported seeing men walking about inside the filling of sandwiches.

On a few occasions she was verbally aggressive and physically intimidating. Her pattern of sleep was inconsistent and at times erratic. There were times when she appeared happy and excited and would wear sunglasses at night.

Haloperidol depot injection was discontinued. She was commenced on Olanzapine with an initial positive response that was not sustained. Clozapine was started, the dose gradually increased to 300mg daily. The psychotic symptoms dissipated. Her parents reported that they had not seen her as well for a long time whilst taking Clozapine.

Investigations

On admission, FBC, ESR, U&E, LFT's, Thyroid function tests, Calcium Phosphate, Magnesium (and ECG) were all within normal limits.

About six weeks after admission Ms A complained of difficulties passing urine. Creatinine (1051 micromols/l) and Urea (35 mmol/l) levels were elevated. Previous routine Urea and Electrolytes (including one week earlier) were all normal. Ms A had been taking Clozapine for 19 days. Ms A was transferred to a General Hospital. Ms A tested negative for HIV, Hepatitis B and Hepatitis C.

Renal biopsy showed acute tubular necrosis and interstitial nephritis with Eosinophils and crescents visible - suggestive of a severe inflammatory response. In the absence of other causes for these findings the most likely aetiology was renal failure induced by Clozapine. The Clozapine was stopped and she was commenced on Prednisolone 40mg daily and required haemodialysis on two occasions. It was recommended that Clozapine (and also Olanzapine) should not be prescribed again.

Ms A was readmitted to the in-patient mental health unit. Her renal function returned to normal, but she suffered a relapse of psychosis. Treatment with Aripiprazole up to 15mg BD conferred no benefit. Ms A was then prescribed Asenapine 10mg BD resulting in a partial response. Amisulpride was combined with Asenapine and the psychotic symptoms essentially abated.

Discussion

Leucht S, Cipriani A, Spinelli L, et al (1) considered the comparative efficacy and tolerability of 15 antipsychotic drugs in Schizophrenia in a multiple treatments meta-analysis. From the total of 212 studies all antipsychotic drugs were found to be more effective than placebo and Clozapine was significantly more effective than the other 14 antipsychotic drugs.

A commentary on this study emphasised that matching up the right medication to the right patient requires careful consideration of the tolerability and safety profile of that medication which will impact on the patient's adherence to treatment and the clinician's willingness to prescribe (2).

Hwang YJ, Dixon SN, Reiss, JP et al (3) reported that Quetiapine, Risperidone and Olanzapine are known to cause acute kidney injury (AKI), with patients aged 65 or older found to be at higher risk for hospitalisation with AKI when treated with atypical antipsychotic drugs versus patients not taking these drugs.

Acute interstitial nephritis can be related to infections, drug-induced or idiopathic. There are eight previous case reports of patients developing drug-induced acute interstitial nephritis after commencing Clozapine. The clinical manifestations are heterogeneous: macular/maculopapular rash; pyrexia; proteinuria; arthralgias and eosinophilia.

Pyrexia is the most commonly mentioned symptom (in 6 of the 8 previously reported cases). Each of the typical symptoms is usually present in fewer than 50% of patients and the entire constellation of symptoms/signs occur in fewer than 5% of cases. It is recommended that patients taking Clozapine have their renal function monitored if there is an elevated eosinophil count. Urinalysis can provide important diagnostic information - proteinuria and/or white blood cells as the earliest indicators of the nephritis (4).

In the case of Ms A, her eosinophil count did not elevate after commencing Clozapine. She did complain of feeling generally unwell and was pyrexial. The only sign of developing renal failure were the increased urea and creatinine levels.

Questions

1. Which one of the following antipsychotic medication causes significantly fewer extrapyramidal side effects compared with placebo:

- A. Amisulpride
- B. Olanzapine
- C. Risperidone
- D. Clozapine
- E. Aripiprazole

2. Which one of the following is of least relevance when considering matching the right medication to the right patient:

- A. Tolerability
- B. Safety profile
- C. Least efficacious antipsychotic drug
- D. First generation versus second generation antipsychotic drug
- E. Extrapyramidal side effects

TREATMENT RESISTANT SCHIZOPHRENIA - RARE SIDE EFFECT OF CLOZAPINE

C Hindler

3. Which one of the following antipsychotic drugs does not significantly prolong the QT interval as compared to placebo:

- A. Risperidone
- B. Quetiapine
- C. Aripiprazole
- D. Asenapine
- E. Olanzapine

4. Which one of the following is not a common finding among individuals developing renal failure after starting Clozapine:

- A. Elevated eosinophil count.
- B. Proteinuria
- C. Pyrexia
- D. Sterile pyuria
- E. Hyperprolactinaemia

5. Which one of the following antipsychotic drugs is less likely to cause weight gain compared to placebo?

- A. Lurasidone
- B. Quetiapine
- C. Olanzapine
- D. Amisulpride
- E. Clozapine

MCQ Answers

1. Answer: D

Clozapine, based on the findings of the multiple treatments meta-analysis paper by Leucht et al in the Lancet 2013.

2. Answer: C

Least efficacious. Rank ordering of medications based on data gathered from group comparisons can be problematic. There can be substantial heterogeneity that prevents the reliable prediction of effects on individual persons. Thus, basing a clinical decision on efficacy of a drug from general, population based research should not be extrapolated to the treatment of an individual suffering with Schizophrenia.

It is evident that first generation and second generation antipsychotic drugs overlap substantially in respect of efficacy.

3. Answer: C

Aripiprazole, based on the findings of the multiple treatments meta-analysis paper by Leucht et al in the Lancet 2013.

4. Answer: E

Hyperprolactinaemia. See content of Case based discussion above.

5. Answer: A

Lurasidone, based on the findings of the multiple treatments meta-analysis paper by Leucht et al in the Lancet 2013.

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