

Identifying the cause of late life psychosis

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**PSYCHOSIS IS A RELATIVELY
COMMON CONDITION IN
OLDER ADULTS WITH A
PREVALENCE OF 5-15% IN**

elderly inpatients and 10-62% in nursing home patients.¹

It may present in the context of delirium, associated with comorbidities such as dementia or depression, or as a primary delusional or schizophrenia disorder. The latter may be a first presentation or represent a pattern of severe and enduring illness.

Psychosis in older people often poses a challenge in terms of diagnosis and management because of its diverse aetiology, the frequent presence of physical comorbidities and the risks associated with the use of antipsychotic medication in older people.

Early intervention in the course of psychosis is associated with better symptomatic and functional outcomes.

PRESENTATION

Positive symptoms of psychosis include delusions, hallucinations and thought disorder that impact on day to day function.

In older adults, delusional beliefs frequently incorporate themes of paranoia, persecution, personal injury (robbery, jealousy, infestation) and partition (the belief that people or objects can pass through what would normally constitute a barrier to such passage).

Hallucinations are most likely to be visual or somatic in nature, and these should alert clinicians to the possibility of an underlying organic condition such as delirium.

Agitation and aggression are also associated with late life psychosis and may often be the reason for first presentation in primary care.²

Although older adults experience

What are the common underlying causes?

How should patients be assessed?

Which patients should be referred?

negative symptoms of psychosis less frequently than younger people, negative symptoms may additionally be present, or may be the sole presenting feature. These may include social withdrawal, poor motivation and difficulty carrying out daily activities.

UNDERLYING CAUSES AND RISK FACTORS

Late life psychosis may be caused by organic conditions including: delirium, dementia, drug intoxication or withdrawal, or a general medical condition.¹ In these situations there should be evidence of a temporal relationship between the psychosis and the underlying condition. Approximately 60% of older adults presenting with new onset psychosis have an identifiable, underlying, organic cause for their symptoms.¹ The most common causes arise from infections, neurological



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Table 1
Common medical causes of psychosis in older people¹

Endocrine/metabolic	● Thyroid disease ● Vitamin B₁₂ and folate deficiency ● Electrolyte abnormalities e.g. sodium, potassium, calcium, magnesium ● Hepatic encephalopathy ● Other nutritional deficiency ● Anoxia/hypoxia ● Hypoglycaemia/hyperglycaemia
Infections	● Pneumonia ● Encephalitis ● Neurosyphilis ● HIV/AIDS
Neurological	● Cerebrovascular events ● Parkinson's disease ● Epilepsy ● Tumours - temporal lobe (auditory hallucinations) - occipital lobe (visual hallucinations) - limbic (delusions) - hypothalamus (delusions) ● Autoimmune e.g. paraneoplastic syndromes, systemic lupus erythematosus ● Huntington's disease

Table 2
Assessment and investigation for late life psychosis

History and mental state examination	● Nature of psychotic symptoms ● Onset, duration and change ● Degree of insight ● Impact on function, activities and relationships ● Assessment of risk to self and others
Blood tests⁷	● FBC ● U&Es ● eGFR ● LFTs ● TFTs ● HbA_{1c}
Physical examination	● Exclude infection ● Evidence of self-neglect ● Further examination guided by clinical suspicion e.g. evidence of sensory or neurological deficit
Cognitive assessment	● Brief screening e.g. GPCOG⁵ or Six Item Cognitive Impairment Test (6CIT)⁶
Further investigations	● As guided by clinical suspicion or identified risk factors e.g. syphilis, HIV, drug screening or neuroimaging

conditions, metabolic or endocrine disease (see table 1, left). These conditions are associated with acute onset of symptoms, abnormal examination findings, visual hallucinations and acute changes in cognition and consciousness.

If an underlying medical condition can be excluded, and there is no evidence to support a diagnosis of delirium or dementia, then the cause of psychosis may be functional. This is more likely if there is a family or personal history of mental illness. Functional psychosis includes a primary delusional disorder, schizophrenia spectrum disorder or mood disorder.

Both depression and mania can be associated with psychosis. Psychosis presenting in the context of mania, may arise from a known bipolar disorder. However, mania can present for the first time in the elderly. A first presentation of mania may lead clinicians to explore whether there is an undiagnosed bipolar disorder, but should also lead to a full exploration of organic causes of mania including cerebrovascular disease, neurodegenerative conditions or brain tumours.³

A number of risk factors make older adults more prone to psychosis including sensory deficits, social isolation, female gender, previous history of psychotic symptoms, cognitive impairment, polypharmacy, medical comorbidities and premorbid paranoid or schizoid personality features.^{1,2,4}

ASSESSMENT

Primary care is often the first point of contact for patients presenting with psychotic symptoms and it is important to distinguish between features that point towards a medical or psychiatric cause.

A careful history including collateral history from family members or carers is paramount in identification of psychotic symptoms in older people. The history should explore current symptoms, and it is important to screen for comorbidities including delirium, dementia, substance misuse and mood disorder. Assessment and investigation for psychosis is summarised in table 2, left.

History and mental state examination must include the nature of psychotic symptoms as well as onset and duration and also the patient's degree of insight. Hallucinations and delusional ideas may not be openly discussed by patients and open questions may initially assist in eliciting the history.

A simple question for screening such as 'Does your mind ever play tricks on you?'

may provide a useful starting point.

Once a rapport is established this can be followed by further probing questions to determine the intensity in which beliefs are held and to ascertain the degree of insight.

Alternatively, it may be beneficial to explore the patient's beliefs surrounding the cause of difficulties as this may provide information not otherwise volunteered or identify stressors or triggers.

Clinicians should be mindful that the presence of sensory deficits, cognitive impairment and medical comorbidities in older adults may complicate the correct identification of psychotic symptoms. For example, illusions due to poor vision can be mistakenly identified as visual hallucinations; tinnitus and carotid bruits as auditory hallucinations.

This initial assessment should include a review of impact on functioning, for example, activities of daily living, changes in behaviour or withdrawal from activities. A risk assessment should be completed for self-neglect, suicidal ideation or thoughts of harming others. Collateral history may prove invaluable, depending on the level of insight demonstrated by the patient.

Cognitive assessment is important to exclude underlying cognitive impairment and can be completed quickly using a simple screening test such as the GPCOG⁵ or the Six Item Cognitive Impairment Test (6CIT).⁶

It is important to remember that older people are particularly susceptible to the impact of medications and other substances, such as dopamine agonists, GABAergic agents, steroids, and alcohol as well as recreational drugs. Therefore, the history should include the temporal relationship between any medication changes or substance misuse, and onset of symptoms.

Physical examination should be completed and as a minimum should exclude evidence of infection. Concerns surrounding personal hygiene or self-neglect should also be noted. Further examination should be guided by clinical suspicion, such as Parkinsonian features warranting a neurological examination. Sensory impairment should also be considered.

Onset of psychotic symptoms often occurs at times of physical or comorbid psychiatric illness. Ideally blood tests, similar to those completed as part of dementia screening, should be carried out, including FBC, U&Es, eGFR, LFTs, TFTs and HbA_{1c}.⁷ If an infection is suspected, further investigation should be guided by likely diagnosis.

Investigations for rarer causes (e.g. HIV or syphilis) could be considered if risk factors are identified. If there are suspicions of illicit substance use, urine drug screening could be undertaken.

REFERRAL

Patients presenting with persistent psychotic symptoms without an identified reversible cause should be referred to Older People’s Mental Health Services for assessment.⁷ If there is suspicion of underlying cognitive impairment or diagnostic uncertainty then referral to specialist services would also be appropriate.

The presence of significant risk factors may prompt more urgent referral. In particular, if there is a history of significant psychiatric illness; presence of delusional, persecutory or paranoid beliefs; current or previous ideas of self-harm/suicide or harm to others; recent stressors; increasing social withdrawal; or evidence of self-neglect.

If multiple risk factors are present and there are acute concerns about the patient’s safety or that of others consideration should be given to referral to local Crisis Resolution and Home Treatment services or assessment under the Mental Health Act.

Despite the clinical need for referral to specialist mental health services, a referral can sometimes be declined by older people who often prefer to remain under the care of their familiar GP, especially if insight into their symptoms is impaired. In such circumstances a joint visit with a mental health professional could be beneficial to develop trust and facilitate transfer of care to specialist services.

Should engagement with assessment and treatment continue to be declined, a capacity assessment would be needed. If the patient lacks capacity, the next steps should be guided by a best interest decision making process.

If symptoms are mild with low associated risks, then consideration could be given to non-pharmacological interventions, such as addressing sensory deficits or making suggestions to reduce social isolation with a view to referral should there be no improvement. In some cases it may not be possible to engage patients until a crisis point is reached and the risks related to their symptoms change the balance of enforced intervention.

CONFIRMING DIAGNOSIS

Organic causes should be identified and treated in primary care, or through referral to gerontology services.

If dementia, depression, or a primary delusional or schizophrenia disorder are suspected, this will be confirmed through assessment in Older People’s Mental Health Services. This assessment will primarily be based on a detailed history and mental state examination and may include more detailed collateral information from family members or specialist assessments from other professionals e.g. occupational therapists or social workers.

Reaching a diagnosis would be supported by a review of physical health and medication. The examination and blood test results from the GP’s assessment will prove invaluable to guiding the assessment.

Further investigations may be prompted by findings on blood tests or physical examination and would be requested as required e.g. structural neuroimaging using CT or MRI to exclude space occupying lesions or cerebrovascular disease, and to assist in assessing for dementia as a differential.

Medication would be reviewed to exclude drug-related causes and medications which may be contributing to psychosis stopped if it is safe to do so.

A more detailed cognitive assessment would be conducted to assess for the presence of cognitive impairment, for example, using the Addenbrookes Cognitive Assessment (ACE-III).⁸ If this assessment suggests cognitive impairment then this is a further indication for neuroimaging.

MANAGEMENT

The management of psychosis in the elderly population is heavily dependent on the cause.



FIGURE 1 Causes of delirium⁹

Delirium

If delirium is present then this must be managed appropriately by treating the cause or causes of delirium, which can be remembered using the PINCH ME acronym (see figure 1, above).⁹

If the patient is distressed or is a risk to self or others then first-line treatment should be verbal or non-verbal de-escalation techniques. If these fail the short-term use of low-dose haloperidol is recommended by NICE.¹⁰

Dementia

For psychotic symptoms due to dementia, NICE suggests exploring possible reasons for distress and addressing clinical and environmental causes.¹¹ This includes optimising the patient’s physical health, ensuring the patient can interact with their environment appropriately (for example, ensuring poor vision and hearing are



Figure 2

Antipsychotic monitoring¹⁵

Initiation FBC U&Es LFTs Blood lipids Weight Fasting blood glucose ECG Blood pressure		3 months Blood lipids Weight	Annually FBC U&Es LFTs Blood lipids Weight Fasting blood glucose
Frequent intervals during initiation Weight (first 3 months) Blood pressure		4-6 months Fasting blood glucose	
0		3	6
			9
			12
			Time (months)

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key points

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Psychosis is a relatively common condition in older adults with a prevalence of 5-15% in elderly inpatients and 10-62% in nursing home patients. In older adults, delusional beliefs frequently incorporate themes of paranoia, persecution, personal injury and partition. Hallucinations are most likely to be visual or somatic, and these should alert clinicians to the possibility of an underlying organic condition such as delirium. Agitation and aggression are also associated with late life psychosis and may often be the first presentation in primary care. Negative symptoms may include social withdrawal, poor motivation and difficulty carrying out daily activities.

Late life psychosis may be caused by organic conditions including: delirium, dementia, drug intoxication or withdrawal, or a general medical condition. In these situations there should be evidence of a temporal relationship between the psychosis and the underlying condition. Approximately 60% of older adults presenting with new onset psychosis have an identifiable underlying organic cause.

If an underlying medical condition can be excluded, and there is no evidence to support a diagnosis of delirium or dementia, then the cause of psychosis may be functional. This is more likely if there is a family or personal history of mental illness. Functional psychosis includes a primary delusional disorder, schizophrenia spectrum disorder or mood disorder. Both depression and mania can be associated with psychosis. Psychosis presenting in the context of mania, may arise from a known bipolar disorder. However, mania can present for the first time in the elderly. A first presentation of mania may suggest undiagnosed bipolar disorder, but a full exploration of organic causes of mania including cerebrovascular disease, neurodegenerative conditions or brain tumours should be carried out.

The history and mental state examination must include the nature of psychotic symptoms as well as onset, duration and the patient's degree of insight. Collateral history may be invaluable and it is important to distinguish between features that point towards a medical or psychiatric cause. The initial assessment should include a review of the impact on functioning and a risk assessment. The history should explore the temporal relationship between any medication changes or substance misuse, and the onset of symptoms. A physical examination should also be carried out and as a minimum should exclude evidence of infection.

Patients presenting with persistent psychotic symptoms without an identified reversible cause should be referred to the Older People's Mental Health Services. More urgent referral may be needed if there is: a history of significant psychiatric illness; presence of delusional, persecutory or paranoid beliefs; current or previous ideas of self-harm or harm to others; recent stressors; increasing withdrawal; or evidence of self-neglect. If there are multiple risk factors and acute concerns about risk to self or others referral to local Crisis Resolution and Home Treatment services or assessment under the Mental Health Act should be considered.

corrected and light levels are appropriate), and making sure the patient is receiving appropriate levels of social stimulation.¹²

If the patient needs further support then referral to Older People's Mental Health Services should be considered. The appropriate use of cognitive enhancers (acetylcholinesterase inhibitors and/or memantine) have been shown to reduce behavioural symptoms in dementia.¹

If non-pharmacological approaches have failed and the patient is at risk of self-harm, harming others, or is severely distressed, then an antipsychotic can be trialled.¹¹ This should only be started following a discussion of the risks and benefits, and after appropriate baseline monitoring has been undertaken.

Antipsychotic medication should be used at the lowest effective dose for the shortest possible time. At present only risperidone and haloperidol are licensed to treat behavioural and psychological symptoms of dementia (and risperidone is only licensed for six weeks). Their use must be reviewed on a six weekly basis and stopped if the benefit no longer outweighs the risks.

Delusional/schizophrenia spectrum disorder

The treatment of non-organic or primary psychosis will vary depending on the cause. Detailed information on treatment is outside the scope of this article but antipsychotic medication may be part of the treatment plan.

Other interventions which may be considered include psychological treatments and electroconvulsive therapy (for severe unipolar depression with psychosis).^{13,14}

In mild to moderate cases of psychosis where the patient is not a risk to self or others and is not distressed non-pharmacological treatments are usually preferable.

Antipsychotics should be used with caution in the elderly as they have considerable health risks: the BNF recommends that they should not be used to treat mild to moderate psychotic symptoms.¹⁵ This note of caution arises because older people are more susceptible to postural hypotension and problems with temperature regulation, and the risk of stroke and of death increases with antipsychotic use in patients with dementia.^{15,16}

Initial doses of antipsychotics used in older people should be lower than in adults of working age, with a slower upward titration accompanied by careful physical health monitoring.¹⁵

Patients can find side effects of

antipsychotics distressing and these can be monitored with standardised tools such as the Glasgow Antipsychotic Side-effect Scale (GASS).¹⁷

Antipsychotic monitoring should be undertaken as recommended in the BNF¹⁵ (see figure 2, p17). Extra care must be taken in patients with Lewy Body dementia or Parkinson's disease as the use of typical antipsychotics (for example, haloperidol) can lead to increased Parkinsonian symptoms, sedation and severe antipsychotic sensitivity reactions.¹¹ Antipsychotic prescriptions in these patients should only be undertaken with specialist support; quetiapine or clozapine are the preferred choices.¹⁸

CONCLUSION

Psychotic symptoms are common in older adults and most frequently arise from an organic cause leading to delirium. Other common aetiologies include dementia, depression and substance misuse; these need to be screened for and managed appropriately.

Some patients will present with a primary psychotic illness requiring input from secondary care mental health services. For these individuals assessment and treatment will involve a multidisciplinary approach, with judicious use of antipsychotic medication where indicated. This needs to be accompanied by careful monitoring of physical health and a biopsychosocial management plan.

Competing interests: None

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