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Differentiating psychosis in geriatric dementia from primary psychotic disorders

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Abstract

Psychotic symptoms often occur in older adults with neurocognitive disorders and can be difficult to separate from primary psychotic illnesses. Delusions and hallucinations are common behavioral manifestations in dementia and they worsen prognosis by accelerating cognitive decline and increasing caregiver burden. Misdiagnosis can lead to inappropriate treatment and avoidable harm. This mini-review discusses the clinical features of common dementias, outlines how psychosis in these conditions differs from primary psychotic disorders and delirium, and summarizes current diagnostic approaches and management strategies. A structured literature search was performed and evidence from recent reviews and original studies was integrated into a practical framework suitable for clinicians and researchers. The article highlights the importance of careful history taking, use of validated assessment tools, awareness of comorbid conditions and consideration of non-pharmacological and pharmacological treatments. Ethical issues and future directions are also discussed.

Keywords: Dementia; Psychosis; Geriatric psychiatry; Alzheimer disease; Lewy body dementia; Late-onset schizophrenia; Diagnostic differentiation; Antipsychotics; Delirium; Neurocognitive disorders.

Introduction

Dementia is one of the most common causes of disability in older adults and affects millions of people worldwide. Beyond cognitive decline, Behavioural and Psychological Symptoms of Dementia (BPSD) are frequent and include agitation, depression, apathy and psychosis. A recent systematic review estimated that psychotic symptoms occur in roughly one-third to two-thirds of people living with dementia [1]. Psychosis in dementia is associated with faster functional decline, greater caregiver stress and earlier institutionalisation [1]. Delusions and hallucinations are therefore clinically important because they impact safety and quality of life. Late-life psychosis may also herald the onset of a neurodegenerative disorder; late-onset schizophrenia and Very Late-Onset Schizophrenia-Like Psychosis (VLOSLP) often precede or coexist with dementia [2]. Differentiating psychosis caused by neurocognitive disorders from primary psychotic illnesses and delirium is crucial because management strategies, prognosis and ethical considerations differ. This review summarizes the literature on psychosis in geriatric dementia and provides guidance on differential diagnosis and treatment.

Methodology

The literature search aimed to identify recent peer-reviewed articles and guidelines relevant to psychosis in dementia and differential diagnosis in older adults. Searches were performed in PubMed, PsycINFO and Embase using combinations of the keyword's dementia, psychosis, behavioral and psychological symptoms, late-onset schizophrenia, differential diagnosis and management. The search was limited to studies published in English between January 2019 and May 2025 to ensure contemporary evidence and priority was given to systematic re-

views, meta-analyses, randomized controlled trials and authoritative guidelines. Inclusion criteria were studies or reviews that described prevalence, clinical features, diagnostic tools or management strategies for psychosis in neurocognitive disorders or in late-onset psychotic disorders. Exclusion criteria were case reports, non-human studies and articles focusing on younger populations. Reference lists of selected articles were hand-searched for additional sources. The final evidence base comprises six key publications, five of which were published within the last five years. Citations were assigned sequentially in order of appearance.

Clinical features of dementia

Dementia is a syndrome characterized by progressive decline in memory, language, executive function and social cognition. The most common subtypes are Alzheimer disease, vascular dementia, dementia with Lewy bodies and frontotemporal dementia. Psychosis can manifest differently across these subtypes. In Alzheimer disease, delusions of theft or misidentification and simple visual hallucinations are frequent. Lewy body dementia is notable for complex visual hallucinations, fluctuating cognition and parkinsonism. Vascular dementia may present with mood lability and occasional paranoid ideation. Frontotemporal dementia often shows disinhibition and apathy and may rarely feature psychosis. Neuropathological correlates of dementia-associated psychosis include higher densities of β-amyloid plaques and neurofibrillary tangles and altered dopamine D_3 receptor expression [3]. Diagnostic criteria for dementia specify that cognitive or behavioral symptoms interfere with activities of daily living and represent a decline from previous functioning. When psychosis emerges in the context of established dementia, it typically appears after cognitive deficits and tends to be transient or fluctuating. Insight is often impaired, and additional neurological signs such as gait disturbance, parkinsonism or dysautonomia may be present. These features distinguish dementia-related psychosis from primary psychotic disorders, where hallucinations are usually auditory, insight may be partly preserved and cognitive deficits are initially mild.

Psychosis in the elderly

Psychosis in late life encompasses a spectrum of conditions. Primary psychotic disorders include schizophrenia, schizoaffective disorder and delusional disorder. When onset occurs after the age of 45 years it is termed late-onset schizophrenia, and after 60 years the term Very Late-Onset Schizophrenia-Like Psychosis (VLOSLP) is used [2]. These late-onset illnesses share genetic predisposition with earlier-onset schizophrenia but show different neurocognitive profiles; deficits in reasoning, attention and processing speed predominate, whereas short-term memory and visuospatial functions are less affected [2]. The average decline in Mini-Mental State Examination scores in VLOSLP is about one point per year [2]. Misdiagnosis is common because memory disturbances in schizophrenia may mimic early dementia and negative symptoms may resemble apathy [2]. Furthermore, psychosis in older adults may be secondary to delirium, medications, sensory deprivation or medical illness. Delirium is characterized by an acute and fluctuating disturbance in attention and awareness; it develops over days to weeks and is usually precipitated by infection, medication or metabolic imbalance. Dementia, in contrast, is a chronic progressive decline over months to years [4]. Delirium typically presents with reduced orientation and impaired attention, whereas dementia initially affects memory and executive functions [4]. Recognizing these distinctions is essential to avoid treating delirium or late-onset psychosis as dementia. Table 1 below summarizes key differences between psychosis arising in the context of dementia and psychosis due to primary psychiatric disorders in older adults.

Table 1: Comparison of dementia-associated psychosis and primary psychotic disorders.

Feature	Dementia-associated psychosis	Primary psychotic disorders
Typical age of onset	Usually >65 years, depending on dementia subtype	Typically, 15-45 years; late-onset >45 years (LOS/VLOSLP)
Onset characteristics	Insidious; psychosis develops after cognitive decline	Acute or subacute onset without preceding dementia
Course of illness	Progressive cognitive and functional decline	Chronic or episodic; cognitive decline occurs later or may be absent
Cognitive impairment	Prominent early deficits in memory and executive function	Minimal cognitive impairment until late in illness; specific deficits may occur
Type of hallucinations	Often visual and multimodal; simple or formed	Auditory hallucinations predominate; visual hallucinations are less common
Nature of delusions	Persecutory or misidentification; transient	Complex, bizarre or systematized delusions
Insight and awareness	Impaired due to cognitive decline; poor awareness	Variable insight; some patients recognize symptoms
Associated neurological signs	Gait disturbance, parkinsonism, fluctuating cognition	Neurological examination usually normal; subtle motor signs may occur
Neuroimaging findings	Atrophy, vascular lesions, Lewy bodies or other pathology	Enlarged ventricles or cortical thinning; no neurodegenerative pathology
Response to antipsychotics	Limited efficacy with increased risk of adverse events; cholinesterase inhibitors may help	Typically, responsive to antipsychotic medications

Diagnostic approach

Diagnosis of psychosis in older adults begins with a thorough history from the patient and knowledgeable informants. Clinicians should document the timing of cognitive decline, the temporal relationship between psychosis and cognitive symptoms, and precipitating factors such as infection or medication change. Screening tools help quantify cognitive impairment; the Mini-Mental State Examination and Montreal Cognitive Assessment are commonly used. For neuropsychiatric symptoms, instruments such as the Neuropsychiatric Inventory (NPI), its nursing home version and the Columbia University Scale for Psychopathology in Alzheimer's Disease (CUSPAD) have been studied. In a diagnostic accuracy study, the NPI showed 83%

sensitivity and the CUSPAD showed 90% sensitivity in identifying psychotic symptoms in dementia [1]. The systematic review found that various tools exist to assess psychosis in dementia but their diagnostic accuracy against reference standards is poorly studied [1]. Observational scales relying on caregiver reports may introduce bias, whereas patient interview-based tools may be limited by lack of insight or communication difficulties [1]. Clinicians should also evaluate for delirium using the Confusion Assessment Method and consider laboratory tests and neuroimaging to identify metabolic, infectious or structural causes. Neuroimaging may reveal vascular lesions, atrophy or Lewy body pathology in dementia or show nonspecific changes such as ventricular enlargement in primary psychosis. Repeated assessment over time is essential because primary psychotic disorders may precede dementia by several years. When late-onset psychosis is observed, one should monitor cognitive function and functional status regularly to detect emerging neurodegeneration [2].

Management principles

Treatment of psychosis in dementia should prioritize non-pharmacological interventions. Meaningful communication between the person with dementia and caregivers, simplifying the living environment and breaking tasks into manageable steps can reduce psychotic symptoms [3]. Environmental modifications include reducing noise, improving lighting and maintaining regular routines. Behavioral strategies, such as distraction and validation, help manage delusions and hallucinations. Education and support for caregivers are critical; training improves communication skills and reduces caregiver stress. Pharmacological treatment is reserved for distressing or dangerous symptoms when non-pharmacological approaches fail. Cholinesterase inhibitors and memantine may reduce hallucinations and delusions, especially in Lewy body and Alzheimer disease. Antipsychotic drugs should be used cautiously; evidence shows modest efficacy and substantial risks. A 2023 clinical review reported that antipsychotics increase the risk of falls via anticholinergic, extrapyramidal and cardiovascular effects [5]. Meta-analysis data indicate that antipsychotic use raises the risk of falls by about 50% in older adults [5]. Because of these risks, deprescribing should be considered, and benefits and harms reassessed within two to four weeks of initiation [5]. When antipsychotics are necessary, low doses of quetiapine or risperidone are commonly used; haloperidol is avoided due to high extrapyramidal risk. Pimavanserin, a selective serotonin 5-HT_2A inverse agonist that does not bind dopaminergic receptors, has shown promise in reducing hallucinations and delusions without worsening motor symptoms [6]. In clinical trials, it demonstrated sustained efficacy over twelve months in patients with Alzheimer's disease and Parkinson's disease psychosis [6]. Its role in dementia-related psychosis remains under investigation. In primary psychotic disorders, standard antipsychotics remain first-line and psychosocial interventions, such as cognitive behavioral therapy for psychosis and social skills training, are important components of care. Table 2 below summarizes management strategies for psychosis in dementia and primary psychotic disorders.

Table 2: Management strategies for dementia-associated psychosis vs primary psychotic disorders.

Strategy	Dementia-associated psychosis	Primary psychotic disorders
Environmental modifications	Reduce noise, improve lighting and maintain routine	Create a stable living environment and minimize stressors
Behavioral interventions	Redirect attention, engage in meaningful activities and validate feelings	Cognitive-behavioral therapy for psychosis
Caregiver education/support	Provide training on communication and coping skills	Family psychoeducation
Cholinesterase inhibitors and memantine	May reduce hallucinations and delusions in Lewy body or Alzheimer disease	Not applicable
Typical/atypical antipsychotics	Use low doses; quetiapine or risperidone when symptoms are severe; monitor for falls	First-line; risperidone, olanzapine or clozapine depending on symptom profile
Serotonin inverse agonist (pimavanserin)	Selective 5-HT_2A inverse agonist approved for Parkinson disease dementia; benefits under study	Not typically used
Psychosocial therapies	Cognitive stimulation and reality orientation	Social skills training and supported employment
Monitoring and deprescribing	Regularly review medication necessity and taper when possible	Monitor metabolic and neurological side effects and adjust therapy

Ethical and practical challenges

Diagnosing and managing psychosis in older adults raises complex ethical and practical issues. Capacity and consent must be assessed; cognitive impairment may limit an individual's ability to make informed decisions about treatment, and surrogate decision-makers may be required. Misdiagnosis can result in unnecessary exposure to antipsychotics and their adverse effects or delay treatment of primary psychosis. There is a risk of stigmatizing older adults with psychosis, especially those with neurocognitive disorders. Balancing safety and autonomy is challenging when hallucinations or delusions lead to risky behavior. Cultural factors influence the interpretation of psychotic symptoms and willingness to seek care. Clinicians must collaborate with caregivers and multidisciplinary teams to tailor interventions that respect patient preferences while ensuring safety. Regular re-evaluation of diagnosis and therapy is essential because neurodegenerative processes evolve and treatment goals may change. Advance care planning should be discussed early in the course of dementia, especially when psychosis emerges.

Future directions

There is a critical need for objective biomarkers to differentiate dementia-associated psychosis from primary psychotic disorders. Advances in neuroimaging, genomics and proteomics may provide early indicators of neurodegenerative processes. Research into late-onset schizophrenia and VLOSLP suggests that neuroimaging markers such as cortical thinning and white

matter changes vary with age, but specific patterns for diagnosis remain elusive [2]. Novel biochemical and RNA markers, including serum brain-derived neurotrophic factor and multianalyte panels, have been proposed but lack specificity [2,7]. Digital technologies, wearable sensors and machine learning algorithms may help monitor behavioral changes and detect early psychosis in dementia. In therapeutics, agents targeting serotonin receptors, such as pimavanserin, and cholinergic or glutamatergic modulators show promise; xanomeline–trospium, a muscarinic agonist combination, is being explored for schizophrenia [3]. Future clinical trials should stratify participants by dementia subtype, severity of psychosis and genetic factors to determine personalized treatment strategies. Finally, collaboration between geriatric psychiatry, neurology and primary care is essential to develop integrated care models that address the complex needs of older adults with psychosis.

Conclusion

Psychotic symptoms in dementia are common and need careful differentiation from primary psychotic disorders and delirium. This review summarized the clinical features of major dementia subtypes and late-onset psychosis, highlighting that psychosis in dementia often follows cognitive decline while primary psychosis may arise without prior dementia. Clinicians should take a detailed history, perform cognitive screening and seek collateral information to establish the temporal sequence of symptoms. Non-pharmacological interventions such as environmental modifications, behavioral strategies and caregiver education should be used first. Antipsychotic medications may be required when symptoms are severe or dangerous but they should be prescribed at low doses with close monitoring. Early recognition and appropriate management of psychosis can improve quality of life and reduce caregiver burden. Capacity and consent must be assessed, and caregivers should be involved in shared decision making. Future research should investigate biomarkers, digital monitoring tools and personalized therapies. Collaboration between geriatric psychiatry, neurology and primary care will be essential to meet the complex needs of older adults living with psychosis.

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