

IMAGEM EM NEUROLOGIA/IMAGE IN NEUROLOGY

New-Onset Psychiatric Symptoms Unmasking a Case of Lung Cancer

Sintomas Psiquiátricos “de novo” Revelam um Caso de Neoplasia Pulmonar

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The etiology of psychosis is multifactorial.¹⁻⁵ Functional psychoses predominate in young adults, whereas organic psychoses, such as those arising from structural brain lesions, are more common in older individuals.^{1,3} A first psychotic episode requires careful and comprehensive investigation,⁵ a full multidisciplinary assessment by a specialist clinician, detailed psychiatric evaluation, thorough medical history, and a complete physical examination are advised.^{1,5} Structural neuroimaging [computed tomography (CT) or magnetic resonance imaging (MRI)] is not recommended as a routine component of the initial assessment,² but should be considered if neurological features, atypical clinical presentations, or late age of onset are present.^{3,4}

Enhancing the importance of a thorough investigation, we present a case of a 59-year-

old woman with no previous psychiatric history, admitted to inpatient psychiatric care in 2023, following the sudden onset of psychotic symptoms: auditory hallucinations, delusional ideation and behavioral disorganization. Complementary diagnostic tests were requested: an electrocardiogram and a full analytical blood evaluation. No imaging tests nor neurological examination were made. Oral paliperidone was initiated with good response, and treatment was transitioned to a long-acting injectable formulation. Full remission of psychiatric symptoms was achieved, without adverse effects. She was followed regularly in outpatient psychiatry.

In 2025, the patient began experiencing new neurological symptoms, including bilateral lower limb tremors and progressive right upper limb weakness, evolving over two months. The patient and her family expressed concern that

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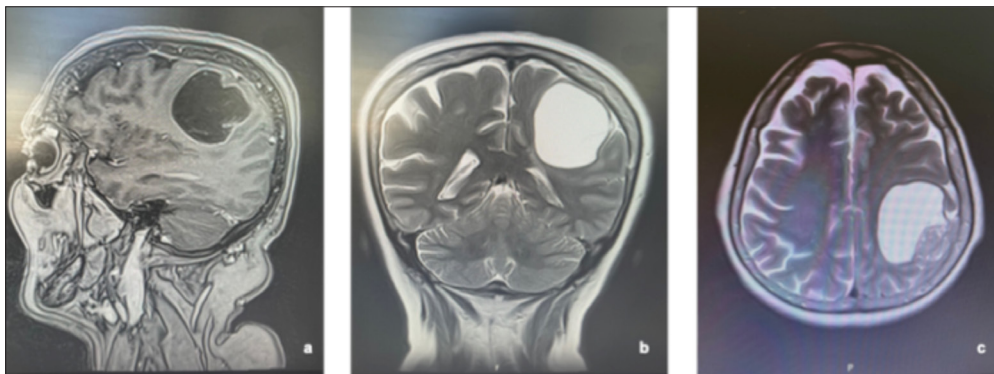


Figure 1. Brain MRI demonstrating an extra-axial cystic lesion along the right frontoparietal convexity. (a) Sagittal T1-weighted image showing a well-defined hyperintense cystic mass compressing the right frontal lobe. (b) Coronal T2-weighted image demonstrating homogeneous high signal intensity with smooth margins. (c) Axial T2-weighted image illustrating the associated mass effect with mild right-to-left midline shift.

these symptoms might be related to the injectable antipsychotic medication. However, neurological examination revealed clear focal deficits: weakness and impaired mobility of the right upper limb, inability to lift the arm above the shoulder (2/5 MRC Muscular Power Scale), hyperreflexia, and gait claudication affecting the right side. These findings raised suspicion of an underlying neurological lesion.

An urgent brain MRI was performed, which demonstrated a space-occupying lesion in the left superior parietal lobe, radiologically consistent with metastatic disease. Further systemic imaging - chest, abdominal, and pelvic CT scans - supported the diagnosis of a primary pulmonary neoplasm.

This case illustrates an important diagnostic challenge: the presentation of a metastatic brain lesion initially manifesting as isolated psychosis of late onset. Although neuroimaging is not standard of care in a first psychotic episode, the clinical benefit in treatment, costs and detecting a possible reversible cause outweigh the risks.²

In this patient, the initial psychiatric presentation likely reflected early cortical involvement by metastatic disease, with neurological symptoms emerging only after significant progression.

The delay between psychiatric onset and neurological signs highlights the insidious course such lesions can follow. It also emphasizes the need for careful clinical reassessment and neuroimaging in older adults presenting with first-episode psychosis, particularly when the clinical course is atypical or evolves despite psychiatric stability. Although the adverse effects of antipsychotic medication were considered, the presence of focal neurological signs appropriately redirected the diagnostic approach.

This case highlights the importance of maintaining a high index of suspicion for organic pathology in late-onset psychosis and the importance of maintaining a broad differential diagnosis. Collaboration between psychiatry, neurology, and radiology was key in establishing the underlying etiology and initiating appropriate oncological referral. ■

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MFA: Conceptualization, data collection, writing the manuscript, review and editing of the manuscript.

MBL: Review and editing of the manuscript.

APC: Conceptualization, supervision, review and editing of the manuscript.

MFA: Conceitualização, recolha de dados, redação do manuscrito, revisão e edição do manuscrito.

MBL: Revisão e edição do manuscrito.

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