

Late-Onset Bipolar Disorder Preceding the Diagnosis of Papillary Thyroid Carcinoma

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Bipolar disorder is a chronic mental illness characterized by alternating episodes of mania, hypomania, and depression. The etiology is multifactorial, involving genetic, neurobiological, and environmental factors.¹ There is increasing evidence of a bidirectional relationship between thyroid dysfunction and mood disorders.^{2,3} Although thyroid dysfunction is commonly associated with affective disorders, the co-occurrence of thyroid malignancy and bipolar disorder is infrequently reported.⁴ This case highlights the challenges of managing bipolar disorder in the context of an incidental diagnosis of papillary thyroid carcinoma (PTC).

Case Report

A 50-year-old woman presented with a 4-month history of low mood, fatigue, sleep disturbances, and loss of appetite. The symptoms were mild at presentation, as she had been taking olanzapine 5 mg and quetiapine 50 mg for the past 4 months.

Her past psychiatric history revealed that 2 years prior, at the age of 48 years, she developed symptoms of increased talkativeness, heightened energy levels, increased goal-directed activity, over-religiosity, and suspiciousness. Her suspicions were primarily centered around her neighbors, believing they were observing her and planning to kill her. She was diagnosed with bipolar disorder—mania with psychotic features—and was treated for approximately 1½ years. She had no family history of psychiatric illness, but her sister had hypothyroidism.

During a routine medical consultation, she was found to have 2 thyroid swellings. Her thyroid

function tests revealed total T3: 1.02 ng/mL (0.7–2.04 ng/mL), total T4: 8.61 µg/dL (5.50–11.0 µg/dL), thyroid-stimulating hormone: 1.204 mIU/mL (0.35–4.94 mIU/mL), and thyroid peroxidase antibodies: 18.73 IU/mL (within normal limits). Neck ultrasound findings showed heterogeneous echotexture with increased vascularity in both thyroid lobes. A mixed echogenic nodule (27 × 20 mm) with cystic changes was noted in the left lobe, while a hypoechoic nodule (11 × 10 mm) with punctate echogenic foci was seen in the upper pole of the right lobe.

Fine-needle aspiration cytology revealed clusters, sheets, and papillary groups of epithelial cells with scanty cytoplasm, overcrowded nuclei with grooves and intranuclear inclusions, and multinucleated giant cells. She was diagnosed with papillary carcinoma of the thyroid (Bethesda stage 6) and was scheduled for total thyroidectomy.

Discussion

Thyroid disorders significantly impact mental health.^{5–7} However, in this case, thyroid function tests were normal, suggesting that the patient's mood symptoms were not directly attributable to thyroid dysfunction. Subtle thyroid abnormalities, including autoimmune thyroiditis or malignancies, may still contribute to neuropsychiatric manifestations.^{8–10}

PTC is the most common thyroid malignancy, with a favorable prognosis.¹¹ While PTC is not typically associated with neuropsychiatric symptoms, malignancies, including thyroid cancers, may contribute to psychiatric disturbances through paraneoplastic mechanisms, immune dysregulation, or systemic inflammation.^{12,13}

The incidental finding of PTC in this patient raises questions about a potential link between psychiatric symptoms and underlying thyroid pathology. The co-occurrence of bipolar disorder and PTC presents unique treatment challenges. Managing bipolar disorder typically involves mood stabilizers, antipsychotics, and psychotherapy.¹⁴ However, certain psychotropic medications, particularly lithium, can impact thyroid function and exacerbate existing thyroid pathology.^{15–17} Although our patient was not on lithium, it is important to note that routine thyroid function screening is particularly emphasized in specific subgroups of bipolar patients. These subgroups include older women, individuals with a family history of thyroid disease, and patients on medications known to affect thyroid function, such as lithium.³

Surgical intervention, primarily total thyroidectomy, remains the treatment of choice for PTC.¹⁸ Given the presence of psychiatric illness, perioperative psychiatric evaluation is crucial to prevent exacerbation of mood symptoms due to surgical stress or anesthesia-related delirium. Close collaboration between psychiatrists, endocrinologists, and surgeons is essential to ensure both psychiatric stability and optimal oncologic outcomes.

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