

NEUROENDOCRINE CARCINOID CANCER ASSOCIATED WITH PSYCHOSIS

DEAR EDITOR:

We report a case of an episode of psychosis in a patient with no known psychiatric history who was diagnosed with neuroendocrine carcinoid cancer. The case raises the possibility of a link between carcinoid cancer and psychotic symptoms. The case also discusses the treatment options of psychosis in a patient with carcinoid cancer.

Case report. A 62-year-old man with no known psychiatric history was admitted to an inpatient psychiatric unit for symptoms of paranoia and agitation that appeared one month earlier. He was diagnosed with neuroendocrine carcinoid cancer three months prior to admission after having complaints of persistent nausea. On admission, the cancer also spread to his liver and spine.

He presented for admission to the psychiatric inpatient unit for worsening psychotic symptoms, which included feelings that his family and neighbors were trying to hurt him and that people in the neighborhood were talking about him behind his back. The psychotic symptoms started two weeks before his admission. His symptoms also included anxiety with decreased sleep, psychomotor agitation, and irritability. He denied any hallucinations or perceptual disturbances. There was no prior psychiatric history of psychosis. The patient did not receive any psychiatric medications and was not on any psychotropic medications prior to admission. His admission labs were within normal limits. He was receiving weekly octreotide acetate injections that he had been receiving for two months.

On admission, the patient was started on quetiapine that was titrated to a dose of 100mg per day. The

patient improved over the course of a week as he slept better, denied paranoid delusions or ideas of reference, and was less anxious. He was discharged home on quetiapine 100mg at bedtime.

Discussion. The overall incidence of carcinoid cancer in the United States is estimated to be 1 to 2 per 100,000 people a year.¹ The tumors are typically diagnosed in the fifth or sixth decade of life, and many patients are asymptomatic at presentation. In the patient with carcinoid tumor, tumor cells manufacture serotonin. Carcinoid syndrome is characterized by flushing, diarrhea, and abdominal cramping and occasionally by wheezing, heart-valve dysfunction, and pellagra. The incidence of the syndrome is higher with metastatic disease.²

Psychiatric symptoms have been reported in patients with metastatic carcinoid disease.³ The reported frequency of depression in carcinoid patients varies widely from 50 percent to less than one percent among all patients in two different studies.^{4,5} Carcinoid syndrome has been associated with psychosis in two case reports in the literature.^{6,7}

There are multiple ways that carcinoid tumors can precipitate psychosis. Possible mechanisms include the hormonal effects of the tumor and of treatment with octreotide and the possible effects of systemic metabolic dysfunction. For example, elevated levels of the neurotransmitter serotonin (as occurs in carcinoid cancers) have been implicated in the pathophysiology of psychosis.⁸ In addition, niacin synthesis is deficient in carcinoid syndrome because of metabolic diversion of its precursor, tryptophan, to form serotonin. In some untreated individuals this can even lead to pellagra, which has been associated with psychosis.⁹ However, the precise mechanism is unknown.

This case is unique in the fact that an atypical antipsychotic was used to treat the psychotic symptoms effectively and without side effects. Atypical antipsychotics including quetiapine have serotonin receptor activity and have been linked to serotonin syndrome.¹⁰ In this case report, the patient tolerated the medication and did not show any evidence of serotonin hyperactivity.

This case report adds to the existing literature by suggesting a possible link between the onset of new psychotic symptoms and a diagnosis with carcinoid cancer. The case highlights the need for awareness of the possibility psychotic symptoms in carcinoid cancer and that atypical antipsychotics can be effective and safe in the treatment of such symptoms.

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With regards,

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