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Psychosis: a rare but serious psychiatric anomaly in patients with sarcoidosis

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To the editor

I read with great interest the recent article by Hinz et al. (1) Sarcoidosis may rarely be associated with manic or psychotic symptoms.

Psychotic disorders are seen in 6.3% of all patients with sarcoidosis, especially in patients with "neurosarcoidosis" (2). Neurosarcoidosis usually occurs in conjunction with systemic sarcoidosis. Rarely, neurosarcoidosis may be present as an isolated syndrome with no systemic involvement. Overall psychosis is seen in 16.9% of patients with neurosarcoidosis (3). The cerebrum and the meninges are the sites most commonly involved. However, the hypothalmus may also be involved in some patients. Involvement of the "nucleus accumbens" has also been reported, resulting in altered dopaminergic transmission and subsequent psychosis (4).

Psychomotor agitation is usually present in psychotic neurosarcoidosis. "Rapid cycling" may be seen in some patients. Other psychiatric abnormalities may also be present concurrently (5). For instance, Gaweł et al recently reported the case of a patient with neurosarcoidosis and progressively worsening cognitive decline. Delusions are often present in most patients. Delirium has been reported in some other patients. Paranoid thoughts for instance "paranoid ideation" may be present. The symptoms are usually continuous and progressive. However, in some cases the symptoms may be relapsing and remitting. Hallucinations, especially visual as well auditory, may be present leading to an initial diagnosis of schizophrenia (6). Auditory hallucinations usually occur secondary to lesions in the "nucleus accumbens". Thought process may also be disorganized. Rarely, manic psychosis may be the initial presenting feature which leads to the ultimate diagnosis of the underlying neurosarcoidosis (2,5). Inappropriate behavior may also be present in some patients. For instance, Bona et al recently reported the case of a thirty six year old man with reports of public urination who was ultimately diagnosed with neurosarcoidosis (7). Neurosarcoidosis induced disconnections between the frontal lobe and the temporal lobe account for this disinhibited behavior. Patients may rapidly progress to complete encephalopathy. Interestingly, cranial neuropathies are the most common clinical finding in neurosarcoidosis. The facial nerve is most commonly involved. Other features secondary to neurosarcoidosis such as altered visual acuity secondary to papilledema, and pituitary failure may be present simultaneously (8). Headaches are often reported by nearly 30% of patients. Pachy-meningitis or lepto-meningitis may occur in some patients. In general, intra- cerebral neurosarcoidosis is more refractory to steroid treatment therapy. On the other hand,

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psychotic neurosarcoidosis with meningeal or peripheral nerve involvement responds better to steroid therapy. Neurosarcoidosis may rarely lead to the development of schizophreniform disorder (9). Psychotic neurosarcodosis is often confused with "headache with neurological deficits and cerebrospinal fluid lymphocytosis".

MRI with contrast is the "gold standard" for diagnosing neurosarcoidosis and reveals abnormalities in 90% of the patients (4,7). The white matter on MRI examination may reveal high intensity lesions on T2 imaging. These lesions are typically hypo- intense on T1 imaging of the brain. Diffuse enhancement of the meninges is the most common finding in patients with psychiatric co- morbidities. Westhout et al recently reported the case of a patient with progressive psychosis and no structural mass lesions or meningeal enhancement (10). This is overall extremely rare. In this patient obstructive hydrocephalus contributed to the development of the psychotic features. CT scans may be used but are less sensitive in comparison to MRI imaging. Nearly 90% of the patients have an abnormal CXR which points towards the diagnosis of possible sarcoidisis (2). CSF examination should always be performed and usually reveals attenuated glucose levels in conjunction with elevated protein levels. Mild pleocytosis may be seen. Typically, CSF abnormalities are more commonly seen in those with meningeal involvement, while those with localized (11) cerebral involvement usually exhibit a normal CSF. Overall, the CSF is normal in 33% of the patients. Stereotactic brain biopsy is diagnostic and usually reveals "non- caseating granulomas" (8). Serum ACE levels are usually elevated while CSF ACE levels may or may not be elevated.

Medications such as ziprasidone and olanzapine have proved to be effective in mitigating sarcoidosis associated psychotic symptoms. Risperidone and hydroxychloquine are other treatment alternatives. Success has also been exported with haloperidol therapy. (6) Steroid therapy is usually necessary in most patients. Prednisone is most commonly used. The usual daily effective dosage varies from 40 to 80 milligrams. Steroid therapy may be necessary for as long as 3 months and is gradually weaned off (3). However, clinical relapse of psychotic symptoms is seen in 33% of the patients, requiring re- institution of steroid therapy (12). Christoforidis et al in a recent study have reported that enlarging or enhancing parenchymal lesions on MRI examination may help in early prediction of clinical relapse in these patients. The correct diagnosis is difficult to make (13). For instance Rudkin et al recently reported the case of a patient, in whom it took as much as three years before the correct diagnosis was made (9).

As is clear from the above examples sarcoidosis may rarely be associated with manic or psychotic symptoms. Neurosarcoidosis should be high on the differential in sarcoidosis patients presenting with sudden onset psychotic symptoms.

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