There is currently great controversy over the issue of obsessive-compulsive behaviors in schizophrenia. Are patients who display these behaviors suffering from a separate subtype of schizophrenia?

In order to improve the outcome of schizophrenia, we must deepen our understanding of its heterogeneous aspect. At the same time, we must search for homogeneous subtypes characterized by consistent clinical aspects so that we may develop specific and more effective treatments. Researchers have long categorized schizophrenia as a syndrome manifested through a number of distinct subtypes that share the same morbid process but have sufficient differences to warrant distinct subtyping (Berman et al., 1995a; Fenton and McGlashan, 1986; Rosen, 1957; Stengel, 1945). Using genetic, neurological, biochemical and outcome markers, research continues to focus on the search for homogeneous subtypes (Goldstein and Tsuang, 1988).

In this article, we will discuss the significance of the obsessive-compulsive (OC) phenomenon in schizophrenia and focus on whether an OC subtype of schizophrenia makes clinical and theoretical sense. One of the yet unanswered questions is whether OC symptoms constitute the expression of obsessive-compulsive disorder (OCD). The answer to this question has both theoretical and clinical implications and would affect our understanding about the etiology and physiology of schizophrenia, as well as insights into outcome and treatment.

If OC symptoms in schizophrenia are expressions of OCD and are more than just manifestations of chronic psychosis, the treatment of many patients would be changed to include an anti-obsessional agent (Berman et al., 1995b). Increasing evidence suggests that OC symptoms are not simply expressions of persistent schizophrenic psychosis but that they actually constitute a cluster of symptoms that resembles OCD (Berman et al., 1998). The question then remains whether OC symptoms are manifestations of comorbid OCD or whether they are characteristics of a distinct subtype of schizophrenia.

Consequently, these patients may suffer from obsessions and compulsions that are intertwined with the psychotic process. The current data suggest that a significant number of patients with schizophrenia (up to 50%) have OC-like symptoms coexisting with psychosis and that these symptoms can be easily overlooked by clinicians (Berman et al., 1998).

In order to understand the etiology of this phenomenon in patients with schizophrenia, we need to rely on pharmacologic, neurocognitive, genetic, brain imaging and biochemical data. The data about the significance of OC symptoms in schizophrenia, however, are limited to only a few studies about the phenomenology, epidemiology, psychopharmacology and neurocognition of OC phenomena in this patient population.

Clinical Phenomenology
Early studies suggested that the association between OC symptoms and schizophrenia was a rare phenomenon and indicated a good outcome (Rosen, 1957; Stengel, 1945). More recent studies, however, have reported that the OC symptoms are seen in a significantly higher number of patients with schizophrenia than had been previously anticipated and that these patients have a poorer outcome. For instance, Fenton and McGlashan (1986) found that approximately 13% (21 out of 163) of patients with schizophrenia had significant OC symptoms and, compared to patients without obsessions or compulsions, were more socially isolated and had longer hospitalizations. Our group found similar results in a sample of patients from a community mental health center (Berman et al.,
We found that approximately 25% of our patients had OC symptoms and that these patients with OC symptoms had an earlier onset of illness, were more socially isolated, spent more time in the hospital, had worse employment history and were thought by therapists to have a lower level of functioning. These findings were supported later by Bermanzohn et al. (1997) who reported that 20% to 50% of patients with schizophrenia had OC symptoms and that the presence of such symptoms indicated poor outcome. A similarly high prevalence (45%) was found by our group in a neuropsychological study in patients hospitalized at a long-term psychiatric hospital (Berman et al., 1998).

**What the Data Reveal**

**Psychopharmacologic Data.** The treatment of OC symptoms in schizophrenia has been only minimally studied. Although the current data about the treatment of OC symptoms in schizophrenia come from only one controlled clinical trial (Berman et al., 1995b) and several open trials (Kurokawa and Tanino, 1997; Zohar et al., 1993), the current evidence indicates that anti-obsessional agents improve OC symptoms in schizophrenia in much the same way as they improve OC symptoms in OCD.

Novel antipsychotics, which may be helpful adjuvant agents in the treatment of severe OCD with psychotic features (McDougle et al., 2000) have been reported to precipitate the emergence or exacerbation of OC in some patients with schizophrenia. It has been hypothesized that the worsening of OC symptoms may be a consequence of the novel antipsychotics' serotonin activity (Berman et al., 1999) and that patients with schizophrenia who experience OC symptoms may respond differently to treatment than patients without OC symptoms. Psychopharmacologic data seem to indicate that OC symptoms in schizophrenia may represent a cluster of symptoms separate from psychosis per se.

Progress in neuropsychology also has helped the formulation of new theories about neuroanatomical substrates of psychiatric symptoms. We conducted a neurocognitive study in a group of stable patients with schizophrenia to determine whether OC symptoms in these patients were similar to obsessions and compulsions in patients with OCD (Berman et al., 1998). We found that the severity of OC symptoms predicted poor performance on exactly the same cognitive tests that indicated deficits in patients with OCD who did not have schizophrenia. In addition, the severity of OC symptoms was correlated with poor performance on areas of cognition that were shown to be affected in OCD (e.g., perseverative errors and answers on the Wisconsin Card Sorting Task [WCST] and delayed visual memory). These findings support the hypothesis that OC symptoms in schizophrenia share similar etiologic substrates as obsessions and compulsions in patients with OCD.

**OC Symptoms**

The prevalence of OC symptoms in patients with schizophrenia (20% to 50%) (Berman et al., 1998) is considerably higher than that of OCD in the general population (3%) (Karno et al., 1988), which may lead to the speculation that this association is more than just simple comorbidity. In our neurocognitive study, the patients were correctly classified into either the OC or non-OC group (over 80%), depending on their cognitive performance (Berman et al., 1998). This finding could suggest that there may be two distinct subtypes of schizophrenia based on the presence or absence of OC symptoms.

Insights about the significance of such a high prevalence of OC symptoms in schizophrenia may also be derived from developmental studies in animals. Animal studies have suggested that experimentally induced lesions in the dopamine system, largely implicated in the pathobiology of schizophrenia, produce marked alterations in the serotonin system involved in the pathobiology of OCD (Breese et al., 1984; Jackson et al., 1988). It is possible that during early developmental states, patients with schizophrenia suffer alterations in both the dopamine and serotonin systems that, later in life, may clinically manifest themselves through the presence of OCD-like symptoms. In addition, it is possible that patients with schizophrenia and OC symptoms may have suffered different developmental anomalies than those patients without OC symptoms (Berman et al., 1999). At this time, however, we do not have sufficient data to determine whether OCD-like symptoms in schizophrenia are expressions of comorbid OCD or if they are manifestations of different illness subtypes altogether. Genetic, brain-imaging and family studies may help us better understand the significance of the association between OC symptoms and schizophrenia.

Nevertheless, based on the current evidence, we may conclude that OC symptoms are frequently seen in patients with schizophrenia and respond to treatment with anti-obsessional agents, rather than antipsychotics. Clinicians should pay increased attention to the OC phenomenon in the psychotic patient, especially since the differentiation between OC symptoms and psychosis can frequently represent a real challenge.
References:


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