



REVIEW ARTICLE

CO-OCCURRENCE OF SCHIZOPHRENIA AND OBSESSIVE - COMPULSIVE DISORDER — A LITERATURE REVIEW

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Similarities between schizophrenia and obsessive-compulsive disorder (OCD) have long been recognised. Obsessive-compulsive symptoms in patients with schizophrenia were first described by Westphal over 100 years ago.¹ The disorder was considered to be a variant of schizophrenia. Since that time the relationship of OCD to schizophrenia and psychosis has been the subject of considerable debate. Unfortunately, only a few methodologically sound studies have investigated this relationship. Associations between the two disorders have been investigated in two ways — on the one hand the frequency of obsessions and compulsions in patients with schizophrenia has been assessed, and on the other hand the occurrence of psychotic symptoms in patients with OCD has been investigated. This article reviews the literature concerning the co-occurrence of schizophrenia and OCD. Clinical implications are highlighted, and avenues for further research are suggested.

OCD IN PATIENTS WITH SCHIZOPHRENIA

Several studies have investigated the occurrence of OCD symptoms in patients with schizophrenia, with the reported frequency ranging from 3.5% to 25%.²⁻⁴ In a retrospective chart review, Rosen² found prominent features of OCD in 30 (3.5%) of 848 patients with schizophrenia. These symptoms either preceded or coincided with the onset of the schizophrenic symptoms. He emphasised the depressive and paranoid features of these patients, and considered them to have a good prognosis. In another retrospective chart review Fenton and McGlashan³ found that 21 (12.9%) of 163 DSM-III-diagnosed schizophrenic patients had prominent OCD symptoms. Berman *et al.*⁴ interviewed the treating physicians of 108 patients with chronic schizophrenia and found prominent OCD symptoms in

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27 (25%). However, in a well-designed study on 77 patients with schizophrenia or schizo-affective disorder, Eisen *et al.*⁵ found that only 6 (7.8%) also met *DSM-III-R* criteria for OCD. This prospective study employed the Structured Clinical Interview for *DSM-III-R* and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), as well as chart review and contact with the treating clinicians. Of the above studies, the latter is most likely to reflect the true incidence of OCD in patients with schizophrenia. The occurrence of OC symptoms in patients with schizophrenia is likely to be considerably higher. In a study limited by its small sample size, Yaryura-Tobias *et al.*⁶ reported unexpectedly high scores on the Y-BOCS and the Self-Rated Symptom Scale for OCD in 13 patients with schizophrenia, and found great similarities in thought process impairment and perceptual deficits when compared with 22 OCD patients. Little is known about the clinical, neurobiological and treatment aspects of these patients. The need for further carefully planned prospective studies is obvious.

OCD WITH PSYCHOTIC FEATURES

Clinical observations indicate that not all OCD patients recognise their obsessions as being irrational or excessive. Their ideas have usually been described as overvalued or delusional. Kozak and Foa⁷ have examined the matter of insight in OCD and conclude that OCD ideas cannot be dichotomised into those with and those without insight. They suggest that a continuum of strength of OC beliefs is more appropriate, and emphasise that the relationship between the degree of OC conviction and outcome of treatment remains unclear. In 1875 du Saullé⁸ reported psychotic symptoms in some of the 27 OCD patients he described. The patients with psychotic features also had poor insight and severe psychopathology. Janet⁹ found psychotic symptoms in 7.7% of patients with OCD. In a review of the literature of OCD with psychotic features, Insel and Akiskal¹⁰ list 9 studies¹¹⁻¹⁹ of patients who were initially diagnosed as OCD and in whom a relatively high incidence of psychosis was found. Incidence rates for schizophrenia in these studies range from 0.7% to 12.3%. The authors point out that these findings should be interpreted with caution, as these were all retrospective studies, with the diagnoses being made by chart review. Also, standardised criteria for diagnosing schizophrenia were not used. Rudin¹² and Muller¹³ found that a relatively high percentage of their patients had schizophrenia, while other studies considered their OCD patients to be psychotic only in the presence of paranoid thinking, or transient loss of insight. Interestingly, many of the OCD patients with psychotic features reportedly had a relatively good outcome.

Insel and Akiskal¹⁰ emphasise that the deterioration often seen in patients with schizophrenia is extremely rare in OCD patients with psychotic features. The literature suggests that

psychotic features in OCD patients may often be due to a paranoid state or a mood disorder rather than a schizophrenic illness. More recently, Eisen and Rasmussen²⁰ assessed 475 patients with *DSM-III-R* OCD. Sixty-seven (14%) were identified as having 'psychotic' symptoms. However, the only psychotic symptom in 27 (6%) was lack of insight, and 14 (3%) were actually diagnosed as schizotypal personality disorder. The remainder of the patients met criteria for specific psychotic disorders. Eighteen (4%) met criteria for schizophrenia, and 8 (2%) had a delusional disorder. OCD patients with psychotic features were more likely to be male, single, to have received treatment earlier, and to have had a deteriorating course. In contrast to some earlier studies, therefore, these authors found that OCD patients with features of schizophrenia had a poor outcome. Clearly, there is considerable heterogeneity among OCD patients with psychotic symptoms.

The co-occurrence of OCD and schizophrenia appears to be greater than would be expected by chance. Taken together, the evidence points to a small but significant subset of patients sharing OCD and schizophrenia symptoms. Whether this represents a distinct clinical entity, or the extremes of a continuum, is not clear. Further prospective studies are required to clarify this issue as well as to determine such matters as whether these patients have other distinctive features, whether they respond differentially to standard treatment, and whether other treatment options — e.g. serotonin reuptake inhibitors (SRIs) combined with antipsychotics — may be effective.²¹

SEROTONIN AND DOPAMINE

There is considerable evidence suggesting that serotonergic and dopaminergic pathways may have particular relevance both for patients with OCD and for those with schizophrenia. SRIs are the first-line treatment for OCD,²¹ and dopamine-blocking agents have been the mainstay of the treatment of schizophrenia for many years.²² Furthermore, preclinical and clinical findings have reported that dopamine plays a role in OCD and possibly related disorders such as Tourette's syndrome.^{23,24} Also, in treatment-resistant OCD augmentation with haloperidol has been successful, particularly if tics are present.²⁵ The advent of the new antipsychotics has brought renewed interest because of their combined dopaminergic and serotonergic blocking properties. In this regard several studies, although uncontrolled, have reported a favourable augmentative effect with the new antipsychotic risperidone in treatment-resistant OCD.²⁶⁻³⁰ Paradoxically, several anecdotal reports have arisen of OCD symptoms emerging in patients with schizophrenia during treatment with both clozapine³¹⁻³⁶ and risperidone.³⁷⁻³⁹ The frequency of this occurrence is unknown and it may be extremely rare, as a retrospective review of hospital files in 142 randomly selected patients on clozapine treatment failed to identify a single case of OCD



symptoms worsening or emerging during treatment.⁴⁰ Also, in a prospective study of patients with schizophrenia those taking another new antipsychotic, olanzapine, did not experience more OC symptoms than those taking placebo.⁴¹

These findings again point to a complex interrelationship between serotonin and dopamine in the pathogenesis of OCD and schizophrenia. It may be that the emergence of OCD symptoms during treatment with the new antipsychotics is a coincidental occurrence, or it may represent a rare idiosyncratic reaction. On the other hand it may be that patients with coexisting psychosis and OCD and patients with resistant OCD represent two distinct subgroups with different underlying disorders of serotonergic and dopaminergic function. Patients with OCD and psychosis may therefore experience exacerbation of OCD symptoms with combined dopamine and serotonin blockade, while patients with refractory OCD may respond favourably to this intervention. The differential response for symptoms of OCD and schizophrenia in patients with both disorders is not entirely unexpected, as functional brain-imaging studies have suggested an opposite pattern of frontal lobe activity,⁴² and neuropsychological investigations report a double dissociation of frontal lobe functioning in OCD and schizophrenia.⁴³ Whatever the underlying mechanisms, increasing evidence points to the involvement of serotonergic and dopaminergic neurotransmitter systems in patients with coexisting OCD and schizophrenia.²¹ Future controlled trials with drugs acting on these two systems in different ways may shed more light on the underlying mechanisms, and may offer better therapeutic options for these patients. The new antipsychotics in particular may have a role to play and may deserve exploration — not only in schizophrenia, but also in OCD and related disorders such as Tourette's syndrome.

This research was supported by the Medical Research Council Research Unit for Anxiety and Stress-related Disorders.

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