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POSTPARTUM PSYCHOSIS IS MORE PREVALENT IN WOMEN WITH AUTOIMMUNE THYROID DISEASE

Bergink V, Kushner SA, Pop V, Kuijpens H, Lambregtse-van den Berg MP, Drexhage RC, Wiersinga W, Nolen WA and Drexhage HA. **Prevalence of autoimmune thyroid dysfunction in postpartum psychosis.** Br J Psychiatry 2011;198:264-8. Epub February 22, 2011.

SUMMARY

BACKGROUND

Postpartum psychosis is a life-threatening psychiatric emergency that occurs in 0.1% of women who have borne children, often without significant premorbid symptoms. The clinical symptoms include fluctuations in mood accompanied by delusions and hallucinations, as well as agitation, insomnia, and cognitive impairment. Patients often require urgent hospital admission because of thoughts of suicide and infanticide. Women with bipolar affective disorder are at high risk for postpartum psychosis; up to half of women with bipolar disorder relapse in the early postpartum period, often with psychotic symptoms. However, most patients with a postpartum psychosis have no history of psychiatric disorder. Although many studies have postulated an involvement of the immune and endocrine systems in the onset of postpartum psychosis, the specific etiologic factors have remained unknown. The aim of the authors was to examine the hypothesis that autoimmune thyroid dysfunction may be associated with the onset of postpartum psychosis.

METHODS

Between August 2005 and November 2008 the authors examined all patients referred to the mother and baby inpatient unit of the department of psychiatry at the Erasmus Medical Centre for evidence of postpartum psychosis using the Structural Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) Structured Clinical Interview (SCID). Of the 123 patients examined, 55 fulfilled the criteria for postpartum psychosis. Patients were excluded from the study because of previous psychiatric history or multiparity. Thirty-one consecutive primiparous women with no prior psychiatric history were selected for the study; 23 presented with manic psychosis, 5 had a mixed episode, and 3 presented with psychotic depression. Selection of the control group (n = 117) was based exclusively on primiparity, regardless of medical or psychiatric history; they were followed during pregnancy and the first year after delivery to determine the incidence of postpartum thyroid dysfunction and postpartum depression. Blood samples were obtained from all participants at 4 weeks and 9 months postpartum. Patients with postpartum psychosis had blood samples taken at various times over the 9-month study period, as clinically indicated. Thyroperoxidase antibody levels, thyrotropin, and free thyroxine levels were measured to assess clinical thyroid disease.

RESULTS

No difference was found in the frequency of cesarean section, rate of primigravidity, birth weight of the child, or incidence of preterm birth between cases and controls. None of the patients or controls had a history of thyroid or autoimmune disease. At 4 weeks postpartum, 5% of the control group had autoimmune thyroid disease (AITD), with no cases of clinical thyroid dysfunction. In contrast, 6 of 31 (19%) of the patients with postpartum psychosis met criteria for AITD on admission to the hospital, before the start of antipsychotic or lithium pharmacotherapy (odd ratio [OR], 4.44; 95% confidence interval [CI], 1.32 to 14.92); half of them also demonstrated clinical thyroid dysfunction at the time of admission to the hospital. The 9-month prevalence of AITD was significantly higher in women with postpartum psychosis, 9 of 31 (29%) versus 15 of 117 controls (13%) (OR, 2.78; 95% CI, 1.08 to 7.17). Patients with postpartum psychosis showed a significantly higher rate of progression from subclinical AITD to clinical thyroid dysfunction (log-rank

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P = 0.017). Specifically, of the 9 patients with AITD at the 9-month follow-up, 6 (67%) had overt thyroid dysfunction as compared with only 20% of the control group (OR, 8.00; 95% CI, 1.23 to 52.25). Notably, the 3 patients in whom AITD and clinical thyroid dysfunction developed during treatment with mood stabilizers were all taking lithium. In contrast, none of the 18 lithium-treated patients without AITD had clinical thyroid dysfunction.

CONCLUSIONS

Women with postpartum psychosis are at higher risk not only of AITD but also of clinical thyroid failure. These data implicate thyroid dysfunction as an important clinical outcome in patients with postpartum psychosis. Further, AITD represents a potentially strong etiologic factor for the development of postpartum psychosis. Therefore, screening for TPO antibodies is warranted in patients with postpartum psychosis.

ANALYSIS AND COMMENTARY

Postpartum AITD, defined as the presence of thyroid peroxidase (TPO) antibodies in the first year after delivery, is reported in 5% to 7% of the general population (1). Postpartum thyroid dysfunction is characterized by three well-defined clinical patterns, all of them self-limited in the vast majority of cases (2, 3): (a) an initial phase of hyperthyroidism in the first 3 months postpartum followed by a euthyroid phase; (b) an initial hyperthyroid phase, followed between 3 and 6 months postpartum by a hypothyroid phase with spontaneous resolution; or (c) an initial hypothyroid phase between 3 and 6 months after delivery followed by euthyroidism. In less than 5% of patients, hypothyroidism may be permanent; however, it is important to follow patients because permanent hypothyroidism occurred in 30% to 50% by 5 years after the initial episode (4, 5), a pattern similar to women in whom type 2 diabetes developed following the diagnosis of gestational diabetes mellitus. The link between postpartum depression and chronic thyroiditis has been reported in the past (6, 7), although no evidence for an increase of AITD in patients with a late onset (>4 weeks after delivery) presentation of postpartum psychosis was found in the only previous systematic study (8). In the present study, a careful evaluation of women (primigravida with no previous psychiatric history) in whom serious signs of psychosis, requiring antipsychotic therapy, developed early in the postpartum period, showed not only a significant presence of thyroid autoimmune disease but also thyroid dysfunction within 9 months postpartum. Only 3 of 31 patients presented with psychotic depression, the others with manic psychosis, requiring multiple drug therapy, including lithium. The authors emphasized that of the lithium-treated women, thyroid dysfunction developed only in those with positive TPO antibodies. The other important observation is the higher rate of development of thyroid dysfunction in women with psychosis, as compared to controls with AITD. No information is given about the course of thyroid dysfunction at 9 months postpartum. It would be of interest to know how many women had a spontaneous return to the euthyroid state, as commonly occurs in women with postpartum thyroid dysfunction. This is the first observational study of primiparous women with AITD and no previous psychiatric history, showing a high prevalence of first-onset postpartum psychosis, as compared with the general population; therefore, it is reasonable to consider a previous postpartum psychosis event, including depression, as an indication for thyroid screening in future pregnancies of such affected women. Whether early identification and treatment of thyroid autoimmune disease would change the course of the disease deserves further study.

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