

# Pseudocyesis: A complication of antipsychotic-induced increased prolactin levels and weight gain

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## ABSTRACT

Pseudocyesis or phantom pregnancy is characterized by a false belief in a non-pregnant female that she is pregnant and this belief is usually associated with bodily signs of pregnancy. In some of the patients, this belief is held with delusional conviction. In this case report, we present the case of a female patient who presented with delusional belief of being pregnant, which was associated with antipsychotic-associated increase in prolactin levels and metabolic syndrome.

**Key words:** Antipsychotic, increased prolactin levels, pseudocyesis

## INTRODUCTION

Some of the previous reports have described the phenomenon of delusion of pregnancy in the context of antipsychotic-associated hyperprolactinemia<sup>[1-4]</sup> and metabolic syndrome.<sup>[5]</sup> In this case report, we present a case of pseudocyesis with delusional belief of being pregnant developing in the background of increased prolactin levels and metabolic syndrome associated with use of antipsychotics and expand the limited literature on this topic.

## CASE REPORT

Mrs. X, a 46-year-old woman presented with an acute onset illness, continuous in course of 2-month duration, which started about 2 months after the death of her only son in a road traffic accident, characterized by liability of effect, delusion

of persecution, visual hallucinations, regressed behavior, restlessness, irritability, disorganized behavior, muttering to self, decreased sleep, decreased appetite and poor self-care. There was no history of first rank symptoms, grandiosity, core depressive symptoms, any substance abuse, head injury, seizures, loss of consciousness and cognitive disturbances. There was no family history of mental illness, and premorbidly the patient had histrionic traits. Initially, a diagnosis of Acute and Transient Psychotic Disorder (acute polymorphic psychotic disorder without symptoms of schizophrenia) (as per ICD-10) was considered and she was started on risperidone up to 3 mg/day, but her condition kept worsening resulting in hospitalization. At the initial evaluation her weight was 83 kilograms, height was 158 cm and waist circumference was 102.5 cm. Routine investigations and computed tomography of the brain did not reveal any abnormality. In view of non-response to 4 weeks of therapy, risperidone was stopped and she was started on olanzapine up to 20 mg/day, with which she initially showed response, and was discharged after 5 weeks. However, within 2 weeks she had worsening of symptoms leading to re-admission. Due to the florid symptoms, she was started on electroconvulsive therapy and antipsychotic was changed to trifluoperazine 15 mg/day. A diagnostic possibility of psychosis (not otherwise specified) (as per ICD-10) was considered. Her psychotic symptoms stabilized

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with trifluoperazine and ECT, but she developed depressive symptoms after stoppage of ECT, amounting to moderate depressive episode without somatic features (as per ICD-10) and required treatment with sertraline 100 mg/day. With this combination she remained well for 14 months. Although she did not achieve her premorbid self, her residual negative symptoms did not interfere much with her level of functioning. During the stable phase, her body weight, waist circumference, lipid profile and fasting blood sugar levels remained stable. However, initially reported irregular menstrual cycles and later developed amenorrhea and galactorrhea on investigation was found to have significant increase in serum prolactin levels (150 ng/ml). Tab trifluoperazine was crossed tapered with tab quetiapine, which was increased to 300 mg/day. With starting of quetiapine, she started gaining weight and her waist circumference increased significantly. While cross-tapering was being done, she started having relapse of symptoms of psychosis. The symptoms kept on worsening despite increase in the dose of quetiapine to 600 mg/day along with clonazepam 6 mg/day with good compliance. The relapse also coincided with the death anniversary of her son. The symptomatology of the current episode was very similar to the previous episode, but additionally she had delusion of pregnancy. She reported that she is pregnant, is able to perceive the movements of the fetus and is shortly going to deliver a male child. When anybody tried to tell her against the same, she would become irritable and violent. Persistence of symptoms with quetiapine led to third admission. On mental status examination, she held the belief of being pregnant firmly and could not be convinced against the same. While in the hospital at times she reported pain in the abdomen and would say that she was having labor pain and is going to give birth to a male child. She would also go to pass urine frequently, would demand for healthy food traditionally given to pregnant mothers and would walk by protruding her abdomen.

At this time, her body weight was 96 kilograms and waist circumference was 138 cm. Her lipid profile revealed raised triglyceride levels and reduced high density lipoprotein levels. Ultrasound abdomen revealed bulky uterus with multiple fibroids with no fetal sac and repeat serum prolactin levels were 89.5 ng/ml and 76.55 ng/ml on 2 different occasions 2 weeks apart. All other investigations including urine pregnancy test, thyroid function test and serum cortisol levels were done in consultation with the gynecologist and endocrinologist, which were found to be within normal limits. During the hospital stay, she very firmly held the belief that she is pregnant even though she had her menstrual periods. She would often ask the treating team to shift her to the maternity ward. She was initially managed with tab ziprasidone up to 120 mg/day along with electroconvulsive therapy. Although she showed some improvement in her positive symptoms with this treatment, delusion of pregnancy persisted at the same intensity. Increase in dose of ziprasidone to 140 mg/day led to changes in the

electrocardiogram and resultantly it was stopped. After giving all the available options, patient's husband opted for clozapine. After proper evaluation, she was started on clozapine and the dose was gradually increased to 200 mg/day, with which she achieved remission with no further increase in body weight and waist circumference over the period of 12 weeks of therapy. Remission was also accompanied with normalization of serum prolactin levels. After remission, she acknowledged that she had false belief of being pregnant.

## DISCUSSION

Pseudocyesis must be distinguished from closely related phenomenon of delusion of pregnancy, pseudo-pregnancy, simulated pregnancy and Couvades syndrome. A person with delusion of pregnancy tends to believe that she is expecting a child, but this belief is not associated with bodily changes associated with pregnancy. It is seen in subjects of either gender.<sup>[6]</sup> It is suggested that delusional belief of being pregnant in females is usually labeled as "pseudocyesis" because of presence of physical signs and symptoms related to pregnancy accompanying the belief. In a review of literature, some authors have suggested that there are certain similarities and differences between delusions of pregnancy and pseudocyesis. Similarities between the 2 phenomena include presence of features like amenorrhea, galactorrhea, breast engorgement and possibly elevated prolactin. In terms of differences, pseudocyesis is more frequently associated with features like abdominal distention, fetal movements, weight gain, nausea, vomiting and change in appetite.<sup>[3]</sup> Further, pseudocyesis is usually associated with endocrine abnormalities including elevated prolactin levels whereas a delusion of pregnancy is not associated with specific endocrine changes.<sup>[3]</sup> Pseudopregnancy is a bodily state that resembles pregnancy and is triggered by organic factors like endocrinopathies due to various reasons. A woman is considered to have simulated pregnancy when she admits to be pregnant, although she is aware that it is not true. Couvades syndrome is seen in males, during or after the birth of a child in their family. In this state, the behavior of the male resembles a pregnant woman, although he knows that he is not pregnant.<sup>[6]</sup>

Index case had hyperprolactinemia associated with amenorrhea, galactorrhea, weight gain leading to increase in the girth of abdomen. In addition, her relapse coincided with death anniversary of her only son. Further, other associated behaviors included presence of fetal movements and presence of labor pains. The delusional belief of being pregnant in this context could be labeled as pseudocyesis. The delusional belief also had psychological significance taking the death anniversary of the son into consideration.

If we take the weight gain into consideration and its temporal correlation with development of pseudocyesis, along with lipid

profile disturbances, manifestations in the index case are akin to the description of delusion of pregnancy associated with antipsychotic-induced metabolic syndrome with clozapine as described in a case report.<sup>[5]</sup> In the narration of the case, authors also described the sense of fetal movements and concluded that the patient had pseudocyesis.<sup>[5]</sup> If the association of pseudocyesis and rise in prolactin level is taken into consideration, manifestations of our case are similar to the description of delusion of pregnancy associated with antipsychotic-induced increased prolactin levels.<sup>[1-4]</sup> However, cases in one of these series only had delusion of pregnancy without associated signs and symptoms of pregnancy.<sup>[2]</sup> In the second series, which included 6 women, the delusion of pregnancy was accompanied by a feeling of being pregnant in the form of abdominal distension and presence of visceral sensation of being pregnant.<sup>[2]</sup> As described in both the case series, delusion of pregnancy in the index case also disappeared along with normalization of prolactin levels. The mechanisms like cognitive theory, physical state experiences and information processing vulnerabilities have been used to understand the development of delusion of pregnancy in the context of hyperprolactinemia and these have been discussed in detail by Ahuja *et al.*<sup>[1]</sup>

Our case adds to the limited literature on the phenomenon of pseudocyesis temporally related to development of hyperprolactinemia, obesity and metabolic syndrome.

## REFERENCES

1. Ahuja N, Moorhead S, Lloyd AJ, Cole AJ. Antipsychotic-induced hyperprolactinemia and delusion of pregnancy. *Psychosomatics* 2008;49:163-7.
2. Ali JA, Desai KD, Ali LJ. Delusions of pregnancy associated with increased prolactin concentrations produced by antipsychotic treatment. *Int J Neuropsychopharmacol* 2003;6:111-5.
3. Cramer B. Delusion of pregnancy in a girl with drug induced lactation. *Am J Psychiatry* 1971;127:960-3.
4. Shankar R. Delusion of pregnancy in schizophrenia. *Br J Psychiatry* 1991;159:285-6.
5. Manjunatha N, Sahoo S. Delusion of pregnancy associated with antipsychotic induced metabolic syndrome. *World J Biol Psychiatry* 2009;10:669-70.
6. Simon M, Voros V, Herold R, Fekete S, Tenyi T. Delusions of pregnancy with Post-partum onset: An integrated, individualized view. *Eur J Psychiatry* 2009;23:234-42.

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