

Delusion of Pregnancy

María José Muñoz Algar and Patricia Bernal García*

Hospital Doctor Rodríguez Lafora, Carretera de Colmenar Viejo, CP, Madrid, Spain

***Corresponding Author:** Patricia Bernal García, Hospital Doctor Rodríguez Lafora, Carretera de Colmenar Viejo, CP, Madrid, Spain.

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Abstract

Delusion of pregnancy or pseudopregnancy is a fixed false belief that one is pregnant, despite evidence to the contrary. It is highly doubtful that delusion of pregnancy can be explained by a single etiological factor, it can be triggered by large variety of organic factors and functional psychosis. Coenesthopathological processes, in which combination of primary somatic sensations arising from the abdomen and other parts of the body due to central obesity and endocrinological changes, were misinterpreted as signs of pregnancy leading some patients to develop delusions of pregnancy. According to the literature reviewed, there is no specific treatment. Most of the literature concerns patients with antipsychotic-induced hyperprolactinemia, not being the only cause described. We can conclude that not only the correction of hyperprolactinemia and antipsychotic therapy are necessary, but also a psychological intervention such as cognitive behavioral therapy.

Keywords: *Pseudocyesis; Delusion of Pregnancy; Hyperprolactinemia*

Introduction

Delusional pseudocyesis or delirium of pregnancy is defined as the presence of a false and fixed belief of being pregnant despite the evidence to the contrary [1]. A person with delirium of pregnancy tends to believe that she is expecting a child, but this belief is not associated with bodily changes observed during pregnancy [2], including a negative clinical evaluation that basically comprises the dose of Beta-HCG [3]. It is a form of bizarre delirium due to organic and functional causes and can even be induced by drugs [2] and belongs to the framework of somatoform disorders [3], having been included in the 5th edition of DSM-V under the heading "Other symptoms specific somatic and associated disorders" [4].

By definition, delusions are firm and false ideas that cannot be challenged by reasoning and that are beyond the control of the patient's cultural and educational background [5]. Its content could include a variety of themes (e.g. persecutory, referential, somatic, religious and grandiose), being at times difficult, if not impossible, to establish the uncertain nature of a belief [2].

Various names have been given to this condition including false pregnancy, simulated pregnancy, imaginary pregnancy, hysterical pregnancy, wind in the gut and nervous plumpness [6]. It is important to distinguish pseudocyesis from delirium of pregnancy [5]. John Mason Good coined the term pseudocyesis from the Greek words *pseudes* (false) and *kysis* (pregnancy) in 1923. Flanders Dunbar defined pseudocyesis in 1938 as "a condition in which a woman firmly believes she is pregnant and develops objective signs of pregnancy in the absence of pregnancy" [6]. They tend to present abdominal distention, breast enlargement, increased pigmentation, the cessation of menstruation, daytime discomfort and vomiting, the typical lordotic posture when walking, increased appetite and weight gain. These patients have a clinical presentation focused on the false signs and symptoms of pregnancy [5].

Michael, *et al.* [7] proposed to differentiate these terms from Couvade syndrome and sham pregnancy. Couvade syndrome (sympathetic pregnancy) affects the male partner of a pregnant woman who experiences a range of physical and psychological symptoms as expectant mothers with the cessation of symptoms at birth or close to the postpartum period. Another concept is simulated pregnancy (when a woman admits to being pregnant, even though she is aware that she is not), it is currently described as a disease process. Ac-

According to the American Psychiatric Association, the essential characteristic of the disease process is the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military service, avoiding work, obtaining financial compensation, evading a prosecution for a crime or obtaining drugs [2].

Next, we will focus on delusional pseudocyesis as an entity.

Historical background

Pseudocyesis has been known since ancient times. Hippocrates wrote about 12 women who “believed they were pregnant” in 300 BC. [6]. María Tudor, Queen of England, successor of Eduardo VI and wife of Felipe II of Spain, had two traumatic episodes of pseudocyesis that caused national and international repercussions in the middle of the 16th century [8]. The cases of Natalie, Queen of the Serbs [9], the religious prophet Joanna Southcott [10] and Fräulein Anna O, famous in psychoanalytic literature [11,12] were also recorded.

However, the first documented case of delirium of pregnancy was described by Esquirol at the beginning of the 19th century in his treatise *Des Maladies Mentales* [13]. A 31-year-old single woman imagined herself being pregnant by her botany teacher. She stopped eating, lost weight and died 18 months later. This is not nosologically specific, it occurs in a wide variety of organic states (post-traumatic epilepsy, the new variant of Creutzfeldt-Jakob disease and other organic brain syndromes), and functional psychoses, with psychotic conditions for which there are no organic lesions and no toxins have been consistently demonstrated (schizophrenia and mood disorders) as well as in clinical conditions such as drug-induced galactorrhea [2].

The literature on delusions of pregnancy in schizophrenia is however scarce, with authors such as Cramer [14] recording the case of a 15-year-old girl who developed delusions of pregnancy followed by chlorpromazine-induced galactorrhea. Many of the psychodynamic postulates offered for pseudocyesis could well serve as a basis for understanding a delusional pregnancy in a patient with schizophrenia [5].

Etiology

It is highly doubtful that delirium of pregnancy can be explained by a single etiological factor. This can be triggered by organic factors without a psychodynamic history or it can develop as an adaptation to stress induced by organic factors (e.g. endocrine: polydipsia, hypothyroidism, hyponatremia syndrome and drug-induced hyperprolactinemia [15,16] and/or psychological [2]. Cenestopathic processes, in combination with primary somatic sensations arising from the abdomen and other parts of the body due to central obesity and endocrine changes, are misinterpreted as signs of pregnancy leading some patients to develop delusions of pregnancy. Cognitive theory hypothesizes that delusions arise from normal cognitive processes aimed at explaining experiences of abnormal perception influenced by premorbid values and beliefs in the context of a vulnerability in information processing [2].

From a cross-cultural perspective, it has been repeatedly found that the expression of delusions and other psychotic symptoms varies largely according to the specific context of the individuals [17]. Psychological and socio-cultural factors such as cultural pressures and desire for fulfillment in women who have children are often implicated in the pathogenesis of pregnancy delusions [18]. Other authors hypothesize that delusions in pregnancy would be a way of fighting against abandonment, the loss of a loved object or a defense mechanism after the loss of reproductive capacities (menopause or infertility diagnosis) [15]. The mother establishes an imperturbable union with the fetus during pregnancy, which eliminates loneliness and impotence in a magical way that could serve as the basis for delusional formation [16].

There is relatively little literature on delusions of pregnancy, and in fact, there are no epidemiological data on their prevalence [17]. They have been registered in female and male patients (although the majority of cases arise in women of childbearing age, this symptom

has also been registered in postmenopausal women) [18]. The number of reported cases of delusions of pregnancy in men appears to be very small and they have occasionally been reported as a symptom of a wide variety of psychotic states including schizophrenia, schizoaffective disorders, bipolar disorders [2] and less frequently recurrent depressive disorder [3]. It can also appear in the context of organic pathologies: epilepsy, post-encephalitic states, metabolic disorders, brain tumor, etc [8,17] and in the context of degenerative neurological disease: vascular dementia, frontotemporal dementia and Alzheimer's disease [3]. On the underlying psychiatric diagnoses in delusional pregnancies, Bera et al. found 36% of patients with schizophrenia, 17% of the patients had bipolar disorder and about 10% had a depressive episode [19]. Other authors find higher prevalences of schizophrenia, up to 50% [15].

Additionally, it has been pointed out that in non-Western cultures, the prevalence of delusions of pregnancy could be higher, due to the important social significance of pregnancy [17].

Controversies in treatment and prognosis

According to the reviewed literature, there is no specific treatment for delusions of pregnancy. Patients with delirium of pregnancy have been reported to be more resistant and hostile to treatment compared to controls. However, psychotropic drugs could play a key role throughout the treatment of medical comorbidities. Antipsychotic medications (fluphenazine, haloperidol, trifluoperazine, chlorpromazine, amisulpride and risperidone) were used successfully, but in other cases, delusions progressed despite neuroleptic treatment [2].

Most of the literature on delusions of pregnancy concerns patients with antipsychotic-induced hyperprolactinemia [16,20-22], finding several cases in which said delusion was resolved due to the normalization of prolactin levels [21-24]. Treatment with antipsychotic medication is an important factor that is often associated with weight gain and with the inhibition of dopamine secretion, which can increase prolactin levels and cause amenorrhea, breast swelling and galactorrhea [3,18]. All of this could provide the somatic basis for the processing of delusional thoughts of pregnancy and later reinforce the abnormal belief of being pregnant [20].

However, in a study by Wesselmann where patients with hyperprolactinemia were evaluated due to the use of antipsychotics, a frequency of thoughts of being pregnant was found in 18% of them and delusions of pregnancy in only 7%. Considering the dopaminergic alterations and the side effects of antipsychotics, the small number of cases of delusions of pregnancy and pseudocyesis in patients with schizophrenia is obviously surprising. It is also necessary to consider prolactin, beyond a restricted hormonal assessment, at the intersection of the individual's personal history, with the vicissitudes of his psychological and environmental stress (for example, the high prevalence of paternal absence has been described during childhood in women who later suffer from pathological hyperprolactinemia) [17].

In these cases, the first choice is an antipsychotic that reduces prolactin levels (such as aripiprazole) [2,20]. The use of Electroconvulsive Therapy (ECT) in patients with psychotic depression is also useful. At the psychotherapeutic level, cognitive psychotherapy can focus on the cognitive processing of sensory experiences and can help patients correct their irrational beliefs [2]. On the other hand, dynamic and supportive psychotherapy could play an essential role in the management of pseudocyesis [5]. However, the prognosis is associated with the cause that led to the delusional symptoms [2].

Conclusion

Few cases of delusions of pregnancy are published in the literature. The complexity of this pathology is largely related to clinical and etiological heterogeneity and the variety of contexts in which it occurs [3].

The frequency of prescribing antipsychotics in this context, which subtracts from first-intention treatment, sometimes results in a recrudescence of symptoms in the face of side effects such as hyperprolactinemia. More than 15% of patients presenting with delirium of pregnancy had symptomatic hyperprolactinemia, with the response rate to the antipsychotic treatment that is largely prescribed around 61% [15].

The literature review records cases described in the setting of completely reversible hyperprolactinemia after biological normalization, in the context of a pre-existing psychiatric pathology. Therefore, systematic investigation and treatment of hyperprolactinemia is recommended in the therapeutic management of patients who present with delirium of pregnancy [3], with normalization of hyperprolactinemia being one of the main goals to achieve the resolution of delirium pregnancy [20].

The literature, however, also reflects other cases not associated with an elevation of pharmacological prolactin. We can therefore conclude that not only the correction of hyperprolactinemia and antipsychotic therapy are necessary, but also a psychological intervention such as cognitive behavioral therapy [20].

Given that delusions of pregnancy are still rare pathologies [15], we think that it is important to know and conceptualize said disorder given the controversies that arise at the time of diagnosis, understanding, and psychotherapeutic and pharmacological approach to it.

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