

Pregnant nearly a year? The patient has symptoms but evidence is lacking

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How would you handle this case?

Answer the **challenge questions** throughout this article

Mrs. X, age 43, reports that she has been pregnant for 11 months. Pregnancy tests and transvaginal ultrasonography are negative. She has no psychiatric history. How would you approach her care?

CASE Hypertensive, nonadherent

Mrs. X, age 43, gravida 4 para 1, is a married woman of sub-Saharan African heritage with a history of idiopathic hypertension, uterine leiomyomas, and multiple spontaneous miscarriages. She has no psychiatric history and had never been evaluated by a mental health professional. Mrs. X is well known to the hospital's emergency room and obstetrics and gynecology services for several presentations claiming to be pregnant, continuously, over the last 11 months, despite evidence—several negative serum beta human chorionic gonadotropin (β -hCG) tests and transvaginal sonograms—to the contrary.

Mrs. X reports that after feeling ill for “a few days,” she began to believe that she was “losing [her] mucous plug” and needed urgent evaluation in preparation for the delivery of her “child.” She again is given a β -hCG test, which is negative, as well as a negative transvaginal sonogram.

Mrs. X's blood pressure is 220/113 mm Hg, and she emergently receives captopril, 25 mg sublingually, which lowers her systolic blood pressure to 194 mm Hg. The internal medicine team learns that Mrs. X stopped taking her blood pressure medications, lisinopril and hydrochlorothiazide, approximately 2 weeks earlier because she “didn't want it [the antihypertensive agents] to hurt [her] baby.”

What explains Mrs. X's belief that she is pregnant?

- a) polycystic ovary syndrome (PCOS)
- b) delusional disorder
- c) bipolar I disorder
- d) somatic symptom disorder

The authors' observations

Pseudocyesis is a psychosomatic condition with an estimated incidence of 1 in 160 maternity admissions in many African countries and 1 in 22,000 in the United States.¹ According to DSM-5, pseudocyesis

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is a false belief of being pregnant along with signs and symptoms of pregnancy.²

Pseudocyesis is more common in:

- developing countries
- areas of low socioeconomic status with minimal education
- societies that place great importance on childbirth
- areas with low access to care.³

The primary presenting symptoms are changes in menses, enlarging abdomen, awareness of fetal movement, enlarged and tender breasts, galactorrhea, and weight gain.⁴

The exact pathophysiology of the disorder has not been determined, but we believe the psychosomatic hypothesis offers the most compelling explanation. According to this hypothesis, intense social pressures, such as an overwhelming desire to become pregnant because of cultural considerations, personal reasons, or both, could alter the normal function of the hypothalamic-pituitary-ovarian axis,⁵ which could result in physical manifestations of pregnancy. Tarín et al¹ found that rodents with chronic psychosocial stress had decreased brain norepinephrine and dopamine activity and elevated plasma levels of norepinephrine. This can translate to human models, in which a deficit or dysfunction of catecholaminergic activity in the brain could lead to increased pulsatile gonadotropin-releasing hormone, luteinizing hormone (LH), prolactin, and an elevated LH:follicle-stimulating hormone ratio.¹ These endocrine changes could induce traits found in most women with pseudocyesis, such as hypomenorrhea or amenorrhea, diurnal or nocturnal hyperprolactinemia (or both), and galactorrhea.¹

How would you approach Mrs. X's care?

- a) confront her with the negative pregnancy tests
- b) admit her to the inpatient psychiatric unit
- c) begin antipsychotic therapy
- d) discharge her with outpatient follow-up

EVALUATION A curse on her

Although Mrs. X initially refused to see the psychiatry team, she is more receptive on hospital Day 3. Mrs. X reports that she and her husband had been trying to have a child since they were married 17 years earlier. She had a child with another man before she met her husband, causing her in-laws in Africa to become suspicious that she is intentionally not producing a child for her husband. She had 3 spontaneous abortions since her marriage; these added stress to the relationship because the couple would feel elated when learning of a pregnancy and increasingly devastated with each miscarriage.

Mrs. X reports that she and her husband have been seeing a number of reproductive endocrinologists for 7 years to try to become pregnant. She reports feeling that these physicians are not listening to her or giving her adequate treatment, which is why she has not been able to become pregnant. At the time of the evaluation, she reports that she is pregnant, and the tests have been negative because her mother-in-law placed a "curse" on her. This "curse" caused the baby to be invisible to the laboratory tests and sonograms.

During the psychiatric evaluation, Mrs. X displays her protuberant abdomen and says that she feels the fetus kicking. In addition, she also reports amenorrhea and breast tenderness and engorgement.

During her hospital stay, Mrs. X's mental status exam does not demonstrate signs or symptoms of a mood disorder, bipolar disorder, or psychosis. Nonetheless, she remains delusional and holds to her fixed false belief of being pregnant. She refuses to be swayed by evidence that she is not pregnant. Despite this, clinicians build enough rapport that Mrs. X agrees to follow up with psychiatry in the outpatient clinic after discharge.

The internal medicine team is apprehensive that Mrs. X will continue to refuse anti-hypertensive medications out of concern that the medications would harm her pregnancy, as she had in the hospital. She remains hyper-

Clinical Point

Pseudocyesis is a false belief of being pregnant, along with signs and symptoms of pregnancy

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Table

Differential diagnosis

Pseudopregnancy (erroneous pseudocyesis)

A medical condition (eg, ovarian tumor) that produces physical symptoms associated with pregnancy that are falsely interpreted as a true pregnancy

Once the medical cause for symptoms is found, the patient typically no longer believes that she is pregnant

Pseudocyesis

An erroneous belief of being pregnant that is associated with physical signs of pregnancy
Found in DSM-5 under other specific somatic symptom and related disorders

Psychotic pregnancy (delusion of pregnancy)

A fixed, false belief of being pregnant without physical signs of pregnancy

Classified in DSM-5 under delusional disorders, somatic type

Source: Reference 1

Clinical Point

When considering a diagnosis of pseudocyesis, the condition should be distinguished from others with a similar presentation

tensive, with average systolic blood pressure in the 180 to 200 mm Hg range; however, after much discussion with her and her family members, she agrees to try amlodipine, 5 mg/d, a category C drug. She says that she will adhere to the medication if she does not experience any side effects.

Mrs. X is discharged on hospital Day 4 to outpatient follow-up.

The authors' observations

When considering a diagnosis of pseudocyesis, the condition should be distinguished from others with similar presentations. Before beginning a psychiatric evaluation, a normal pregnancy must be ruled out. This is easily done with a positive urine or serum β -hCG and an abdominal or transvaginal ultrasound. Pseudocyesis can be differentiated from:

- **delusion of pregnancy** (sometimes referred to as psychotic pregnancy)—a delusional disorder often seen in psychotic illness without any physical manifestations of pregnancy

- **pseudopregnancy** (sometimes referred to as erroneous pseudocyesis), another rare condition in which signs and symptoms of pregnancy are manifested^{1,6,7} but the patient does not have a delusion of pregnancy.

Pseudocyesis, in contrast, comprises the delusion of pregnancy and physical manifestations.² These distinctions could be difficult to make clinically; for example, an increase in abdominal girth could be a result of pseudocyesis or obesity. In the setting of physical manifestations of pregnancy, a diagnosis of pseudocyesis is more likely (*Table*¹).

Patients with pseudocyesis exhibit subjective and objective findings of pregnancy, such as abdominal distension, enlarged breasts, enhanced pigmentation, lordotic posture, cessation of menses, morning sickness, and weight gain.^{8,9} Furthermore, approximately 1% of pseudocyesis patients have false labor, as Mrs. X did.¹⁰ Typically, the duration of these symptoms range from a few weeks to 9 months. In some cases, symptoms can last longer¹¹; at admission, Mrs. X reported that she was 11 months pregnant. She saw nothing wrong with this assertion, despite knowing that human gestation lasts 9 months.

In delusion of pregnancy, a patient might exhibit abdominal distension and cessation of menses but have no other objective findings of pregnancy.⁷ Rather than being a somatoform disorder such as pseudocyesis, a delusion of pregnancy is a symptom of psychosis or, rarely, dementia.¹²

Pseudopregnancy is a somatic state resembling pregnancy that can arise from a variety of medical conditions. A full medical workup and intensive mental status and cognitive evaluation are necessary for diagnostic clarity. Although the pathology and workup of delusional pregnancy is beyond the scope of this article, we suggest Seeman¹³ for a review and Chatterjee

et al¹⁴ and Tarín et al¹ for guidance on making the diagnosis.

Theories about pathophysiology

As with many psychosomatic conditions, the pathological process of pseudocyesis originally was thought of in a psychodynamic context. Several psychodynamic theories have been proposed, including instances in which the internal desire to be pregnant is strong enough to induce a series of physiological changes akin to the state of pregnancy.⁶

Other examiners of pseudocyesis have noted its development from fears and societal pressure, including the loss of companionship or “womanhood.”^{6,9} Last, the tenuous interplay of desire for a child and substantial fear of pregnancy appears to play a role in many cases.⁹⁻¹¹ Rosenberg et al¹⁵ reported on a teenager with pseudocyesis who desired to be pregnant to appease her husband and family, but feared pregnancy and the implications of having a child at such a young age. As this team wrote, “this pregnancy sans child fulfilled the needs of the entire family, at least temporarily.”¹⁵

Prevailing modern theories behind the somatic presentations of these patients hinge on an imbalance of the hypothalamic-pituitary-adrenal axis.⁹ Although this remains the area of ongoing research, most literature has not shown a consistent change or trend in laboratory levels of hormones associated with pseudocyesis.¹⁶ Tarín et al,¹ however, did show a similar hormonal profile between patients with pseudocyesis and those with PCOS. Although urine or serum pregnancy testing and ultrasonography are indicated to rule out pseudopregnancy, we see no benefit in obtaining other lab work in most cases beyond that of a general medical workup, because such evaluations are not helpful in diagnosis or treatment.

Mrs. X’s abdomen was protuberant and she displayed the typical linea nigra of

pregnancy. Many authors have theorized the physiological mechanism behind the abdominal enlargement to include contraction of the diaphragm, which reduces the abdominal cavity and forces the bowel outwards. As abdominal fat increases, the patient becomes constipated, and the bowel becomes distended.^{10,16} Although the cause of our patient’s abdominal enlargement was not pursued, we note that the literature reported that the abdominal enlargement disappears when the patient is under general anesthesia.^{10,16,17}

Characteristics of pseudocyesis

Bivin and Klinger’s 1937 compilation of >400 cases of pseudocyesis over nearly 200 years remains a landmark in the study of this condition.¹⁸ In their analysis, patients range in age from 20 to 44; >75% were married. The authors noted that many of the women they studied had borne children previously. Further social and psychological studies came from this breakthrough article, which shed light on the dynamics of pseudocyesis in many patients with the condition.

According to Koić,¹¹ pseudocyesis is a form of conversion disorder with underlying depression. This theory is based on literature reports of patients displaying similar personal, cultural, and social factors. These similarities, although not comprehensive, are paramount in both the diagnosis and treatment of this condition.

Often, pseudocyesis presents in patients with lower education and socioeconomic status.^{1,3,11} This is particularly true in developing nations in sub-Saharan Africa and the Indian subcontinent. Case reports, cross-sectional, and longitudinal studies from these developing nations in particular note the extremely high stress placed on women to produce children for their husbands and family in male-dominated society; it is common for a woman to be rejected by her husband and family if she is unable to reproduce.³

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Often, pseudocyesis presents in patients with lower education and socioeconomic status; this is particularly true in developing nations

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The effect of a lower level of education on development of pseudocyesis appears to be multifactorial:

- Lack of understanding of the human body and reproductive health can lead to misperception of signs of pregnancy and bodily changes
- Low education correlates with poor earnings and worse prenatal care; delayed or no prenatal care also has been associated with an increased incidence of pseudocyesis.³

In Ouj's study of pseudocyesis in Nigeria, the author postulated that an educated woman does not endure the same stress of fertility as an uneducated woman; she is already respected in her society and will not be rejected if she does not have children.³

Mrs. X's ethnic background and continued close ties with sub-Saharan Africa are notable: Her background is one that is typically associated with pseudocyesis. She is from an developing country, did not complete higher education, was ostracized by her mother-in-law because of her inability to conceive, and was told several times, during her visits to Ghana, that she was indeed pregnant.

Mrs. X noted a strong desire to conceive for her husband and family and carried with her perhaps an even stronger fear of loss of marriage and female identity—which has been bolstered by the importance placed on the woman's *raison d'être* in the family by her cultural upbringing.^{3,6,9-11,15} What Mrs. X never made clear, however, was whether *she* wanted another child at her age and in the setting of having many friends and rewarding full-time employment.

Epidemiology of pseudocyesis worldwide has been evaluated in a handful of studies. As compiled by Cohen,⁸ the prevalence of pseudocyesis in Boston, Massachusetts, was 1/22,000 births, whereas it was dramatically higher in Sudan (1/160 women who had previously been managed for reproductive failure).¹ This discrepancy in preva-

lance is consistent with current theories on patient characteristics that lead to increased incidence of pseudocyesis in underdeveloped nations. A 1951 study at an academic hospital in Philadelphia, Pennsylvania, noted 27 cases of pseudocyesis in maternity admissions during the study period—an incidence of 1 in 250.¹⁹ Of note, 85% of cases were of African American heritage; in 89% of cases, the woman had been trying to conceive for as long as 17 years.

Avoiding confrontation

Initially, Mrs. X was resistant to talking with a psychiatrist; this is consistent with studies showing that a patient can be suspicious and even hostile when a clinician attempts to engage her in mental health treatment.^{10,16} The patient interprets the physical sensations she experiences during pseudocyesis, for example, as a real pregnancy, a perception that is contradicted by medical testing.

It is important to understand this conflict and to avoid confronting the patient directly about false beliefs; confrontation has been shown to be detrimental to patient recovery. Instead, offer the patient alternatives to her symptoms (ie, sensations of abdominal movement also can be caused by indigestion), while not directly discounting her experiences.^{6,9} Indeed, from early on in the study of pseudocyesis, there have been many reports of resolution of symptoms when the physician helped the patient understand that she is not pregnant.^{20,21}

OUTCOME Supportive therapy

Mrs. X is seen for outpatient psychiatry follow-up several weeks after hospitalization. She acknowledges that, although she still thought pregnancy is possible, she is willing to entertain the idea that there could be another medical explanation for her symptoms.

Mrs. X is provided with supportive therapy techniques, and her marital and soci-

Clinical Point

A pseudocyesis patient can be suspicious, even hostile, when a clinician attempts to engage her in mental health care

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Related Resource

- Pierce A, Turner A, Gilbo N, et al. No evidence of pregnancy, but she is suicidal and depressed after 'my baby died.' *Current Psychiatry*. 2016;15(7):67-68,70-73.

Drug Brand Names

Amlodipine • Norvasc	Hydrochlorothiazide
Captopril • Capoten	• Microzide
	Lisinopril • Prinivil, Zestril

Clinical Point

There are many reports of a resolution of symptoms when a physician helped a pseudocyesis patient understand that she is not pregnant

etal stressors are discussed. Psychotropic medications are considered, but eventually deemed unnecessary; the treatment team is concerned that Mrs. X, who remains wary of mental health providers, would view the offer of medication as offensive.

Mrs. X is seen in the gynecology clinic approximately 2 weeks later; there, a diagnosis of secondary anovulation is made and a workup for PCOS initiated.

Subsequent review of the medical record states that, during further follow-up with gynecology, Mrs. X no longer believes that she is pregnant.

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Bottom Line

Pseudocyesis is a complex psychosomatic condition with no clear etiology. An understanding of the presentation and treatment of pseudocyesis has become increasingly necessary, particularly in large tertiary centers and facilities, where many patients from immigrant populations are seen. With increasing globalization, the number of women with pseudocyesis seen in the United States also will continue to grow.