Case Report

Puerperal Psychosis: A brief review and unusual case report

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Abstract

This is a brief review of puerperal (post-partum) psychosis and contains a case report of Donkin Psychosis, an unusual form which is associated with pre-eclampsia, from Queen Elizabeth Central Hospital in Blantyre, Malawi. It includes considerations for treatment of Donkin Psychosis, in particular. It is the first reported case of Donkin Psychosis from Africa, to our knowledge.

Keywords: puerperal psychosis, Donkin psychosis, post-partum psychosis, pre-eclampsia, eclampsia, maternal death, bipolar affective disorder. [MeSH On Demand]

Introduction

Childbirth is a powerful trigger of psychiatric illness, and psychiatric episodes at this time cause substantial morbidity and mortality, with suicide a leading cause of maternal death[1]. Despite extensive efforts, a definitive pathophysiology for post-partum psychiatric disorders has remained elusive[2]. Post-partum (puerperal) psychosis is rare, occurring in 1 to 2 out of every 1,000 live births. The risk of post-partum psychosis increases to 1 in 7 births in women with a previous history of post-partum psychosis, 1 in 4 births in women with a history of bipolar disorder, and 1 in 2 births in women with a history of bipolar disorder and a family history of post-partum psychosis[3]. It appears to be more likely to occur in women with a personal history of major depressive disorder, as well[4]. Symptoms of post-partum psychosis often include confusion, disorientation, agitation, auditory and visual hallucinations, delusions, and, perhaps most worrisome, indifference to or active attacks on the newborn. Pre-eclampsia (toxemia of pregnancy) is a severe, immune-related disorder of pregnancy. It is a well-recognized danger for pregnant women and generally well-treated in the developed world, progressing to eclampsia in 0.05%-0.10% of cases. In resource limited settings, however, the rate of progression to eclampsia is significantly higher (up to 16% in Nigeria, for example). Eclampsia is the most frequent cause of death in pregnant women in South Africa, Gabon, Mexico and Brazil and the second most frequent cause of death, after hemorrhage, in Bangladesh[5,6,7,8]. It is likely underreported and a significant cause of maternal morbidity and mortality throughout the developing world.

Donkin Psychosis, first described by Arthur Donkin in 1863 [9] is a specific form of pregnancy-associated psychosis and is also known as eclampsia psychosis without seizures (EPWS). Its etiology and pathophysiology are unclear, as is that of pre-eclampsia/eclampsia , although presumably they are related to similar factors: an impairment of the maternal immune system so that it fails to recognize the fetoplacental unit, chronic placental ischemia, widespread arteriolar endothelial dysfunction and spasm, elevated blood pressures, and thrombophilia[1,10]. We present a case of Donkin Psychosis. It is to our knowledge the first reported case from sub-Saharan Africa.

Case presentation

The patient was a 38 year old gravida 8 para 6 HIV non-reactive (negative) woman from rural Blantyre, Malawi who presented in active labor at Queen Elizabeth Central Hospital (QECH) . She was referred from her local hospital for "parity". On admission, she was complaining of "backache. She appeared distressed and sad. Her blood pressure was elevated at 190/112. She had 2+ proteinuria (scale 0-3+). Peripheral edema was not noted on admission, although on subsequent interview the patient spontaneously mentioned that her feet were swollen when she entered the hospital. She complained of blurred vision but no headache. She had received regular pre-natal care at her local district health center. She had never attended school and was illiterate.

In the Emergency Room, her cervix was 6cm dilated. Her pre-delivery hemoglobin level as 12.7g/dl. Magnesium sulfate was administered to prevent seizures and nifedipine was given to lower her blood pressure. Her blood pressure dropped to 132/89 prior to transfer to the labor ward . After an unrecorded interval, she arrived on the labor and delivery ward fully dilated. The second stage of labor lasted 5 minutes and she proceeded to deliver spontaneously a healthy baby girl (2,100 grams, Apgar scores of 8 and 10) with only superficial tears to her perineum. No gross abnormalities of the placenta were noted. At 5 hours post-delivery her blood pressure was 131/99 with a heart rate of 105 beats per minute. She was transferred to the High Dependency Unit for monitoring and continued to be treated with magnesium sulfate and nifedipine for two days post-delivery. At the time of discharge, three days after admission, her blood pressure was 130/72 with a pulse of 76. She was discharged with instructions to take nifedipine orally 10mg three times per day for 12 days and told to report in two weeks to her local health center with her baby for follow-up.

Three days after discharge, she was readmitted to QECH. She had been unable to obtain the nifedipine from the pharmacy due to a local stock-out and she had taken no other antihypertensive medication. According to her family, two days prior to her re-admission, she was reported to have remained conscious but suddenly became unaware of her

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surroundings, was generally confused, talked to herself as if in conversation with another person, and demonstrated a low mood. At the same time, she ceased to feed or care for her baby, refused to eat or drink, and shoved the baby once so violently that the family became alarmed for the baby's safety and removed her from her mother. At re-admission to QECH, she was not oriented to time, place, or person. She reported that her baby "had died". Blood pressure on admission was 160/109 with a pulse of 110. Her Rapid Malaria Diagnostic Test was negative. She was promptly treated with nifedipine and hydrochlorothiazide with rapid improvement in both her blood pressure and her mental state. The only chart notes documenting her re-admission are from the day of admission and the day of discharge. On hospital day three, the day of discharge, she was noted to have retained products of conception and hence underwent a dilation and curettage with the evacuation of 180 ml of retained products of conception and blood. At discharge, her blood pressure was 118/91 and she was alert, oriented and feeling much better." She was actively nursing and caring for her newborn daughter. Before leaving the hospital she was given a four week supply of hydrochlorothiazide and nifedipine.

The Mental Health Department received a request for a consultation at the time of her second admission but due to holidays and an overwhelming work load, the patient had mentally cleared and been discharged home before formal evaluation could occur.

One month after her discharge, her blood pressure was 100/68 with a regular pulse of 86 and she was taking no medication. On follow-up in her village two months after discharge, the patient had little memory for her illness, only that she was "frightened" and "confused". She couldn't recall refusing to eat or drink for two days or hearing voices. Her mental state examination was completely normal, including her mood, thought processes, perceptions, and cognition. She didn't know the date or year, but she knew the seasons, the names of all of her neighbors, and her current location, which seemed normal for her agrarian life.

Discussion

Post-partum psychosis is a condition of multiple and varied etiology, a phenomenological cluster. Pre-existing bipolar affective disorder, previous postpartum psychosis, and possibly major depressive disorder in a patient predispose to its development, as does a family history of the same. But a patient without those antecedents may, however, in association with pre-eclampsia, develop a similar-appearing illness which may require a different treatment.

The patient's illness fits the existing definition of puerperal psychosis: the abrupt onset of a psychotic illness within two weeks of childbirth, with associated hallucinations, delusions, thought disorganization, alienation from her child, and bizarre behaviors. Her illness, in addition, was associated with pre-eclampsia, conforming to the diagnosis of Donkin Psychosis. The case demonstrates some features atypical for post-partum psychosis, however, including her older age, her high parity, and the lack of puerperal or other known mood disorders in her family.

In addition to being a rare case of EPWS, this case importantly highlights the challenges to diagnosis and treatment in Malawi. Infrastructure and staffing are major limitations. Queen Elizabeth Central Hospital is a 1300+ bed tertiary referral center in southern Malawi. The hospital has a well-trained and skilled staff whose numbers are insufficient for the high patient census. There is frequently broken or absent equipment, absence of laboratory reagents, and occasional losses of electrical power or water. The census at times requires patients to stay in informal beds, including mattresses on ward floors or even on hall floors. Food, basic hygiene, personal care, and linens for patients are supplied by guardians – family or friends. There is little capacity for adequately monitoring patients, including catheters and intravenous lines, there are unpredictable pharmacy shortages, and patient care documentation is often rudimentary.

Post-care follow-up is challenged by the use of paper records that are sorted by date of admission but not alphabetically, by a medical record number, or another unique identifier. Telephones are not universally owned or used; addresses are often not recorded in patient files. The demographics of Malawi add an additional challenge as most of the population is rural and served by local health centers. Therefore, this patient needed to be located through her local clinic in order to interview her in her small hillside village.

An informal survey of 14 academic physicians, among them obstetricians, psychiatrists and internists, revealed that none were aware of a pre-eclampsia-associated puerperal psychosis, let alone its eponymous designation. Two current literature reviews of eclampsia and pre-eclampsia make no mention of puerperal psychosis in their list of symptoms, suggesting that this is not a well-known correlation. [5, 11]

There is urgency in the treatment of puerperal psychosis. In the first instance, the baby must be protected and never left alone with the mother. In addition, haste is of the essence in order to facilitate nursing and to encourage maternal-infant bonding. For these reasons, electroconvulsive therapy (ECT) is often used, especially if the mother does not have adequate food and fluid intake. As often, antipsychotic medications are used to effect recovery.This patient's psychosis resolved rapidly within three days of normalization of her blood pressure, without the use of antipsychotic medication. It is noteworthy that if a consultation had been performed for her during her second admission, she would likely have received risperidone, our most reliably available second-generation antipsychotic. When she had improved in three days, risperidone would have been credited for her recovery.

There are no controlled studies of the use of antipsychotic medications for the treatment of post-partum psychosis, although they and ECT are the standards of practice in the community. The possibility that the Donkin variation of post-partum psychosis may be successfully treated solely with antihypertensive medication is intriguing. Medications in low-resourced countries are frequently out of stock. The potential additional side effects of the antipsychotics, both for mother and nursing newborn, are unwanted. The use of unnecessary medication is an all-too-frequent occurrence in modern medical practice.

Conclusion

Donkin Psychosis appears to be similar to delirium; that is, an acute confusional state with an underlying medical cause that resolves when the cause is remedied. It may not require the use of ECT or antipsychotic medication to effect a recovery. Based on a single case, it appears to be important to consider the use of antihypertensive medication alone

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(with magnesium sulfate for seizure prevention) for the treatment of this condition, at least in the initial phase of treatment and in the absence of a personal or family history of a preceding mood disorder.

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