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Menstruation Related Recurrent Psychosis: A Case Report

Menstrüasyon İlişkili Rekürren Psikoz: Olgu sunumu

Kezban Öztürk[1], Ahmet Sami Güven[1], Meltem Kıymaz[2], Gül Yücel[3], Hüseyin Çaksen[1]

[1]Necmettin Erbakan University, Meram Medical Faculty, Department of Pediatrics, Division of Pediatric Neurology, Konya

[2]Necmettin Erbakan University, Meram Medical Faculty, Department of Pediatrics, Konya

[3]Konya Meram Education and Research Hospital, Department of Pediatrics, Division of Pediatric Neurology, Konya

Introduction: Menstruation related recurrent psychosis (MRRP) is a rare disease. Its etiology is still unclear. The hormonal changes of the menstrual cycle may be contributing to the pathophysiology of psychiatric conditions.
Case Report: A 16-year-old female patient was referred to our pediatric neurology outpatient clinic for further examination. About 2 years ago, she suddenly complained of inability to speak, inability to stay alone, forgetfulness, refusing to eat and numbness involving her left face, and had no seizures. Her psychiatric complaints lasted for a week per month and resolved spontaneously. For the last two years, she had history of multiple admissions for brief delusional episodes to another hospital. In the period following the onset of complaints, her family noticed that the child's complaints occur during her menstrual cycle. After each menstrual period, her symptoms disappear completely and don't require treatment with anti-psychotic medication. There is no history of trauma, fever or toxic exposure. There is no family or personal history of any psychiatric or neurologic illness. She was hospitalized at another center and examined for infectious, metabolic, autoimmune and toxic causes. All test results were normal. She was diagnosed with MRRP and started on quetiapine. On the third day, she exhibited a significant improvement in symptoms, and we stopped her medication. If the patient had similar complaints in the next episode, the same treatment was planned. She has been regularly followed-up for four months and did not yet have a heavy attack requiring antipsychotics.
Conclusion: We present a patient with menstruation induced psychosis, due to its rarity. It is important to publish such cases in order to determine the actual incidence. Neurological examination of patients presenting with psychiatric symptoms is important but the relationship between the findings and menstrual cycle and history of spontaneous improvement after the period should be questioned.

Keywords: *Menstruation, recurrent, psychosis*

Giriş: Menstrüasyon İlişkili Rekürren Psikoz (MİRP) nadir görülen bir hastalıktır. Etiyolojisi hala belirsizdir. Menstrüel siklustaki hormonal değişiklikler, psikiyatrik durumların patofizyolojisine katkıda bulunabilir.
Olgu Sunumu: On altı yaşında kız olgu ileri tetkik için çocuk nörolojisi polikliniğimize sevk edildi. Yaklaşık 2 yıl önce, aniden konuşamama, yalnız kalamama, unutkanlık, yemek yemeyi reddetme ve yüzünün solunda uyuşukluk şikâyeti başlamış, hiç nöbet geçirmemişti. Psikiyatrik şikayetleri ayda bir, 1 hafta sürüp, kendiliğinden düzeliyordu. Son iki yıldır, kısa delüzyonel epizodları için başka bir hastaneye çok defa başvuru öyküsü vardı. Şikayetleri başladıktan

sonra, ailesi çocuğun şikayetlerinin menstrüasyon döneminde meydana geldiğini fark etmişti. Her menstrüasyon döneminden sonra semptomları tamamen kayboluyor ve herhangi bir anti-psikotik ilaca gerek kalmıyordu. Travma, ateş veya toksik maruziyet öyküsü yoktu. Ailesi ya da kendisinde herhangi bir psikiyatrik ya da nörolojik hastalık öyküsü yoktu. Başka bir merkezde yatırılmış ve enfeksiyöz, metabolik, otoimmün ve toksik nedenler için incelenmişti. Tüm test sonuçları normaldi. MİRP tanısı alan olgumuza ketiapin tedavisi başlandı. Üçüncü gün, semptomlarda belirgin bir iyileşme gösterdi ve ilacını stopladık. Olgunun bir sonraki dönemde benzer şikayetleri olursa, aynı tedavi planlandı. Olgu dört aydır düzenli olarak takip edilmektedir ve henüz antipsikotik gerektiren ağır bir atağı olmadı.
Sonuç: Menstrüasyona bağlı psikozu olan bir olguyu nadir olması nedeniyle sunuyoruz. Gerçek insidansının tespiti için bu tür olguların yayınlanması önemlidir. Psikiyatrik semptomlarla başvuran hastaların nörolojik muayenesi önemlidir, ancak bulgular ile menstrüel siklus arasındaki ilişki ve menstrüasyon sonrası spontan iyileşme öyküsü sorgulanmalıdır.

Anahtar Kelimeler: *Menstrüasyon, tekrarlayan, psikoz*

Introduction

Psychosis is a neurologic syndrome that may include hallucinations (auditory, visual, tactile), delusions, confusion, mutism or manic syndrome. Psychosis may be categorized as primary or secondary according to the etiology (1). Of all age groups, women between menarche and menopause are at the highest risk for affective illness. The hormonal fluctuations of the menstrual cycle may contribute to the pathophysiology of mood disorders (2).

Case Report

A 16 year-old teenage was referred to our pediatric neurology outpatient clinic for the recurrent complaints of inability to speak, fear of *being alone*, forgetfulness, refusing to eat, and a numbness involving her left face. For the last two years, she had history of multiple admissions for brief delusional episodes to the another hospital in the city. Symptoms typically appeared a few days before the menstrual bleeding and lasted for a week in some menstrual cycles and resolved spontaneously. Her developmental milestones were normal. There was no family history of any psychiatric or neurologic illness. There was no documented history of physical, emotional, or sexual abuse, trauma, fever or toxic exposure. The neurological examination excluded any neurological syndrome. She had been admitted to the another hospital in the city, and investigated for infectious, metabolic, autoimmune and toxic causes, one month ago. The consultant child and adolescent psychiatrist observed a difficult verbal contact due to the dissociation of thinking, disorientation in place, irritable mood, inappropriate affect and psychomotor agitation. Neuropsychological testing indicated a full-scale IQ within the normal range. During the hospitalization, her arterial blood pressure, heart rate, body temperature were normal. All test results (complete blood counting, thyroid function tests (fT4, fT3, TSH), antithyroid antibodies, vitamin B12 level, urine toxicology screen, tandem mass spectrometry, the level of 24-hour urinary copper and serum ceruloplasmin, anti-nuclear antibodies) were normal. Lumbar puncture had revealed no oligoclonal band and anti-NMDAR antibody, IgM and IgG anti-measles antibodies. Cerebrospinal fluid culture and polymerase chain reaction (PCR) was negative for *Borrelia burgdorferi, Mycobacteria tuberculosis*, cytomegalovirus,Epstein-Barr virüs, human immunodeficiency virüs (HIV) herpes simplex virüs *type I* and *II*. All tests against tumor markers (afp, cea, ca 125) were negative, CT of the chest and neck as well as ultrasonography (usg) of abdomen showed no abnormalities. An electroencephalograph (EEG), and cranial magnetic resonance imaging (MRI) were normal. No treatment had been given and than she was referred to us for the etiology and treatment. The

patient presented to our outpatient clinic with similar complaints in the menstrual period. Her menstrual periods were quite regular since the menarche. Serum LH (luteinizing hormone), FSH (follicle stimulating hormone), progesterone, estradiol, prolactin and testosterone levels were normal. She was diagnosed as MRRP by the typical *story* and normal *laboratory* and imaging *findings* and started on quetiapine 300 mg/day and psychological therapy. On the third day, she exhibited a significant improvement in psychomotor activity and the medication was stopped. If the patient had similar complaints in the other menstrual cycles, the same treatment was planned. She has been regularly followed-up for four months, has not yet have a heavy attack requiring antipsychotics and continues to be free of psychotic symptoms with psychological therapy.

Discussion

The most common psychiatric disorders with psychotic features are schizophrenia, bipolar disorder, major depression, schizoaffective disorder (1). Autoimmune, endocrine, neurological and nutritional disorders are secondary medical conditions that can cause psychosis (3).

Relationship between psychosis and menstruation was first described in 1896 by Kraft-Ebing (4). The first symptoms usually occur after the menarche and may persist for several years, if left untreated. Single young women, mostly under the age of 20 and around the age of 16, with recurrent psychotic symptoms at any stage of the menstrual cycle have been reported (2, 5, 6). The pathogenesis isn't known but according to some reports, high levels of prolactin and LH and high estradiol/progesterone ratio may play a role (2, 6, 7). In our case, the hormone levels and estradiol/progesterone ratio were normal.

The diagnostic criterias for MRRP are; acute onset of psychotic symptoms (with, during or in the middle of menstrual bleeding in some cases), short-lasting attacks, asymptomatic period between the attacks. Clinical manifestations usually do not fit the definitions of functional psychoses, may be nonspesific and vary at every menstrual cycle (6). In our case, psychotic complaints started a few days before each menstrual period and disappeared after the menstruation.

In the differential diagnosis of subacute onset psychosis, oncologic reasons, Huntington disease, drug toxicity (such as dopamine agonists, heavy metals, thyroid hormones), infectious diseases (HIV, herpes simplex encephalitis, Lyme disease etc.), vitamin deficiencies (Vitamin B12 deficiency), metabolic diseases (Wilson's disease etc.), inflammatory and demyelinating diseases (Anti-NMDA receptor encephalitis, multiple sclerosis) should be considered (8, 9). The history of seizures, cerebrovascular disease, headaches, recent head injury, space-occupying lesions (tumors, cysts), stroke is important to rule out neurologic etiology (8). It is important to consider anti-NMDAR encephalitis within the differential diagnosis of psychosis associated with cognitive impairment even in those with an apparent previous psychiatric history and response to antipsychotics (10). In our case, all test results were normal. In addition, tumor markers assessment and imaging were normal to rule out a paraneoplastic form of autoimmune limbic encephalitis.

Some of the recommended treatments for MRSS are; estrogen, estrogen-progesterone or clomiphene, progesterone but all are off label use. There is no clear consensus on the use and duration of antipsychotic treatments (2). We think that antipsychotic treatments during attacks and psychological support may be useful. In our case, we used quetiapine and psychological support after the diagnosis. We continued the psychological support by planning antipsychotic drugs only during psychotic attacks. She did not yet have a heavy attack requiring antipsychotics.

Conclusion

We present a patient with menstruation induced psychosis, due to its rarity. It is important to publish such cases in order to determine the actual incidence. Neurological examination of patients presenting with psychiatric symptoms is important but the relationship between the findings and menstrual cycle and history of spontaneous improvement after the period should be questioned.

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