Misoprostol for termination of pregnancy-can it precipitate a seizure in a well controlled secondary epileptic tuberculoma patient?

Gebelik sonlandırmasında misoprostol- iyi kontrol edilen bir epileptik tüberkülomda epilepsi nöbetini tetikleyebilir mi?

Pushparaj Mohanraj, Pradeep Kumar Garg, Deepa Maheswari Narasimalu

Department of Obstetrics and Gynecology All India Institute of Medical Sciences, New Delhi, India

Abstract

A 35 year woman G2P0A1L0 at 16 weeks period of gestation, underwent termination of pregnancy for a fetus having a large lumbosacral meningomyelocele and Arnold chairi II malformation. She was a known treated case of tuberculoma of the brain who was not on any antiepileptics, and had been seizure free for the past two years. She developed two episodes of seizures precipitated during pregnancy termination with misoprostol. She received intravenous diazepam and phenytoin and was safely discharged home after she aborted.

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Key words: Seizure, misoprostol, termination of pregnancy

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Özet

Otuz-beş yaşında, G2P0A1Y0 olan bir 16 haftalık gebeye geniş bir meningomyelosel ve Arnold Chairi Tip II malformasyonlu fetus nedeniyle gebelik terminasyonu uygulandı. Beyinde tüberkülom tanısı almış olan hasta antiepileptik kullanmıyordu ve son iki yıldır epilepsi atağı yaşamamıştı. Misoprostol ile gebelik terminasyonu uygulanırken iki kez epileptik nöbet oluştu. İntravenöz diazepam ve fenitoin ile tedavi edilen hasta abort ettikten sonra sorunsuz olarak taburcu edildi.

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Anahtar kelimeler: Epilepsi, misoprostol, gebelik terminasyonu

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Introduction

Misoprostol, a synthetic prostaglandin E1 analogue, is an important drug in obstetrics and gynecology because of its abortificient, uterotonic and cervical-ripening effects (1). The side effects are dose-related, usually transient, and well tolerated. Misoprostol in animal studies has been shown to lower the threshold for convulsions and provoke convulsions with a subconvulsive dose of pentilenetetrazol (PTZ) (2). Cumulative total daily doses of 1600 μg have been tolerated with only mild gastrointestinal discomfort. In animals, the acute toxic effects include sedation, tremor, fever, convulsions, dyspnea, diarrhea, hypotension or bradycardia (3).

Pregnancy does not affect the frequency of seizures. Women who have been seizure free and adequately controlled for many years are unlikely to have seizures during pregnancy. Antiepileptics may be discontinued in women who wish to conceive and have been seizure free for more than 2 years. The risk of recurrence is 40% by 2 years after drug withdrawal (4).

We present a case of second trimester medical termination of pregnancy induced with misoprostol in a secondary epileptic patient with healed tuberculoma of brain, who had been seizure free for the past two years not on antiepileptic drug.

Case

A 35 year pregnant woman, a $G_2P_0A_1L_0$, came to the outpatient department following a level II Ultrasound done at 16 weeks showing a large meningocele in the fetal lumbosacral spine, focal kyphoscoliosis, and Arnold chairi II malformation ("lemon sign" and "banana sign" positive) with bilateral club foot. This was a spontaneous conception; she was not on any antiepileptic drugs. Her triple screen carried out at 15 weeks revealed Down's risk of 1 in 1,900 and neural tube defect risk of 1 in 180. She was counseled about the poor prognosis for the fetus and she opted for pregnancy termination. Patient was a known case of tuberculoma of the brain with multiple calcified granulomas and she had received a complete course of second line ATT for 18 months 10years previously. She had a ventriculoperitoneal shunt inserted in situ 8 years earlier for raised intracranial tension. Since she had not had any seizures for the past 8 years and was keen on conception, her antiepileptics (phenytoin) were stopped two years earlier. On examination, she was conscious and oriented; her general physical examination, cardiovascular, respiratory and central nervous examination were unremarkable. Her pulse rate was 86/min, her BP 130/80mm Hg , and an abdominal examination revealed a uterus 18 week in size. The investigation revealed her random blood sugar, haemogram,

Address for Correspondence / Yazışma Adresi: *Uzm. Dr. Pushparaj Mohanraj, Department of Obstetrics And Gynecology, All India Institute of Medical Sciences, 110029 New Delhi, India Phone: 9109868449505 e.mail: pushparajm@rediffmail.com*

liver function, renal function and serum electrolytes to be within normal range. After proper consent and neurology evaluation and clearance for termination of pregnancy, she was planned for induction with three doses of misoprostol (Misoprost, Cipla, India.) 400mcg intravaginal 6 hours apart. She developed two episodes of generalized tonic clonic seizures following the second dose. The third dose was omitted. After securing the airway, she was started on diazepam 10mg iv stat and intravenous phenytoin 1600mg in 100ml normal saline as a slow infusion over 30 minutes and phenytoin 350mg H.S. She aborted following the second dose. Cord blood was sent for karyotyping and the fetus was sent for grossing.

Discussion

Misoprostol is a common drug in obstetric practice used in medical abortion in the 1st trimester, as a cervical ripening agent, for induction of labor and prevention of post partum hemorrhage. The toxic dose in humans has not been determined. The plasma concentration of vaginal misoprostol increases gradually, reaching a peak in 70-80 minutes and serum levels of misoprostol are sustained for longer than 6 hours (5). The second dose of misoprostol would have had an additive effect on plasma concentration, thus precipitating the seizures. Cumulative total daily doses of 1600 mcg have been tolerated with only symptoms of gastrointestinal discomfort being reported. The temporal relationship (6 hours after instilling vaginal misoprostol) strongly suggests that misoprostol was the agent directly involved in inducing the seizures. Epileptic seizures have been reported with prostaglandin analogues administered by routes other than oral. We are presenting this case as a reminder to practitioners that even well controlled epilepsy can be precipitated by misoprostol. Hence they need to be aware of the risk and take this into consideration.

Conflict of interest
None declared

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