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Case Report

A Case of Rupture Uterus in Previous Scar due to Uterine Hyper-Stimulation Caused by Self-Induction with Castor Oil

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Abstract

Rupture uterus is an obstetrician's nightmare till date. The incidence in modern obstetrics has really gone down due to safe practice owing to rising litigation rates. We report a case of rupture uterus in a case of previous cesarean due to uterine hyper-stimulation caused by castor oil intake by the patient for self-induction of labor. Our patient presented with spontaneous onset labor and was eligible for trial of labor after prior one cesarean as per department protocol. Within a few hours of admission, Cardiotocogram (CTG) showed uterine hyper-stimulation, unresponsive to tocolysis and became suspicious. Further enquiry revealed castor oil intake for self-induction of labor. Clinical examination suggested a ruptured uterus and emergency laparotomy was done. Post-operative recovery was good and the uterus was saved preserving her future fertility, along with a healthy mother and baby. With this case, we want to highlight the important medico-legal and risk management issue involving self-induction with castor oil causing a grave complication and particularly counseling women with previous scarred uterus antenatally (who are considered for TOLAC), not to ingest castor oil.

Keywords: *Rupture Uterus; Hyper-Stimulation; Previous Cesarean; Castor Oil*

Introduction

Castor oil, obtained from the seed of the plant *Ricinus communis*, has been used traditionally by patients, physicians and by midwives to stimulate labor at term. It does possess a labor-inducing effect, but one which often leads to unco-ordinated and colic-like contractions of the uterus (Hawkins, 1974). In the 1960s, it was demonstrated that ricinoleic acid, the chief component of castor oil, enters the systemic circulation, and causes uncontrolled triggering of contractions of the uterus and a number of possible side-effects, like nausea, vomiting, intestinal colic, diarrhea, disturbances of electrolyte balance, dehydration, hemorrhagic gastritis, hyperaemia of the pelvic organs, haemolysis and liver cell necrosis [1].

Rupture uterus is a grave obstetric complication and if not managed timely can have serious maternal and neonatal morbidity and mortality. Incidence of rupture in the previous LSCS (lower segment cesarean section) is approximately 1 in 200 even after careful selection of cases for TOLAC (Trial of Labor After Cesarean). We describe a case of ruptured uterus due to uterine hyper-stimulation caused by castor oil ingestion for self-induction of labor by our patient after 1 LSCS.

Case Presentation

SK, 27 year old, G2P1L1 with previous 1 LSCS for breech 3 years back, came in spontaneous labor at 39 weeks 6 days gestation. TOLAC was considered as per the guideline and department protocol. On admission, cephalic presentation with 1 - 2 cm dilated cervix noted.

Within 2.5 hours, uterine tachysystole was recorded, although fetal heart rate was reassuring then. Enquiry due to suspicion then revealed the history of castor oil ingestion of about 70 ml for self-induction of labor. Tocolysis with terbutaline was given and epidural as labor analgesia was offered. Cervix was then 3 - 4 cm dilated.

However, uterine hyperstimulation continued and repetitive deep variable decelerations and severe pain on right iliac fossa (RIF) noted. The patient's pulse rose to 124 and examination revealed oblique lie, abnormal contouring and ballooning of head in RIF and on internal examination, clear loss of station with head felt in right fornix and cervix very high and totally deviated to 3 O'clock with shoulder presentation.

Patient was immediately shifted to the operation theater for exploratory laparotomy for suspected uterine rupture. Intraoperatively, hemoperitoneum of 1600 ml and full length scar rupture involving the left uterine artery and extension vertically into left lower and upper segment equally (Figure 1). Baby was in the abdominal cavity, extra uterine, well delivered in time and with Normal APGAR scores. Complete repair of the uterus with left uterine artery ligation was done. Simultaneous resuscitation was carried out intraoperatively and postoperatively and the patient made good recovery from the high dependency unit to be discharged home with her baby after 3 days.

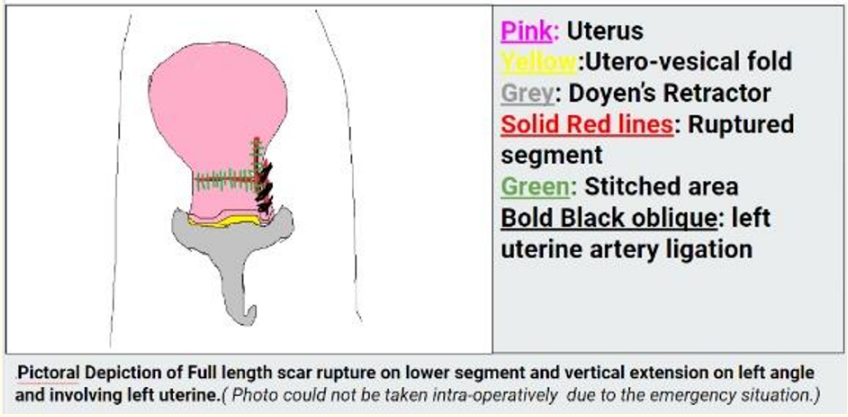

Figure 1: *Cartoon depicting ruptured uterus.*

Outcome and follow-up: Debriefing was done post-operatively including the instructions to undergo elective cesarean at 37 weeks next pregnancy and also educated regarding the effect of castor oil in causing uterine hyperstimulation and rupture.

The uterus was saved along with a healthy mother and baby preserving future fertility.

Discussion

Rupture uterus is a known complication in previous scarred uterus, incidence being about 1 in 200 in one prior LSCS [2]. Incidence has been decreasing due to rising elective cesarean rates and reducing VBAC rates due to the fear of medico-legal litigations.

Our patient was a fit candidate for TOLAC and took self-medication for IOL with castor oil in high doses.

Review of literature could find only 1 case of uterine rupture in previous LSCS associated with castor oil ingestion [3].

A retrospective observational case control study in Italy reported that castor oil ingestion showed higher probability of labor initiation within 24 hours [4]. However, it has been quoted as contraindicated for IOL in women with previous scar on the uterus [5]. Cochrane database revealed no evidence of a difference between castor oil and placebo/no treatment for the rate of instrumental delivery, meconium-stained liquor, or Apgar score less than seven at five minutes [6].

A recent clinical trial about castor oil for IOL at Cairo University, Egypt is yet to conclude [7].

This case also highlights important medico-legal and risk management issues. If we had not enquired and documented, we would have been at a loss in explaining her uterine hyperstimulation and thus it may have proved difficult to defend her management. We believe that the possibility of unqualified self-induction of labor with castor oil should be considered whenever faced with unexplained spontaneous hyperstimulation.

Conclusion

We reported this case, to emphasize uterine rupture can happen in a scarred uterus due to uterine hyperstimulation caused by castor oil. We also want to highlight the role of continuous IPM and high index of suspicion in timely detecting and managing rupture uterus in high risk laboring women.

Furthermore, castor oil is not indicated as per NICE guidance for Induction of labor and the author suggests discussing its consequences with pregnant women in the last trimester in the antenatal period itself especially in previous scarred uteri, so they are alerted beforehand. Perhaps castor oil ingestion should be specifically asked in history for women with spontaneous onset labor but having uterine tachysystole and stringent intrapartum monitoring required for them. From a Medicolegal point of view, documentation of events is very important and a clinical incident report must be raised in the department for learning purposes.

Conflicts of Interest

None.

Patient Consent

Obtained.

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