

Uterine Inversion; A case report

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Abstract

The puerperal uterine inversion is a rare and severe complication occurring in the third stage of labour. The mechanisms are not completely known. However, extrinsic factors such as oxytocic arrests after a prolonged labour, umbilical cord traction or abdominal expression are pointed. Other intrinsic factors such as primiparity, uterine hypotonia, various placental localizations, fundic myoma or short umbilical cord were also reported. The diagnosis of the uterine inversion is mainly supported by clinical symptoms. It is based on three elements: haemorrhage, shock and a strong pelvic pain. The immediate treatment of the uterine inversion is required. It is based on a medical reanimation associated with firstly a manual reduction then surgical treatment using various techniques. We report an observation of a 25 years old grand multiparous patient with a subacute uterine inversion after delivery at home.

Key words: uterine inversion puerperal, treatment, surgical techniques.

Introduction

The puerperal uterine inversion is a rare and severe complication occurring at the third stage of labour. In order to ensure a proper treatment, it has to be diagnosed in the early stages. We report a successfully treated case at the department of gynaecology obstetrics of the University Hospital of Fez in Morocco.

Observation

The patient is 25-years-old, with history of 6 gravida 3 para and three spontaneous abortions. She delivered at home after a fast labour associated with abdominal expression and traction of the umbilical cord at delivery. The newborn is a female of undefined weight. Twenty four hours later, and following the stage of expulsion, the parturient reported t bleeding and a painful vulvar mass. The general examination found a conscious and agitated patient. The conjunctivas are slightly dislocated; the blood pressure was 110/70 mmHg, the heart rate was 100 beats/min and temperature at 38.6°. The clinical examination showed a very sensitive soft necrosed mass exteriorized by the vulva (Figure 1). Various diagnoses were suggested. This included fibroma which was delivered by the canal, a uterine inversion or a prolapsus of the canal. The abdominal examination did not reveal any safety globe. The pelvic ultrasonography did not show a uterus in the pelvis and the diagnosis of subacute uterine inversion was retained.

After preparation, broad-spectrum antibiotic therapy was given and and blood transfusion was administrated. A manual reduction was attempted under general anaesthesia without obtaining any positive results. The realization of laparotomy allowed a progressive reduction using "Allis pinscher" according to the Huntington technique. Considering the gangrene and the infectious context, hysterectomy with ovaries conservation was performed. Finally, the postoperative follow was simple.

Discussion

The puerperal uterine inversion is a rare complication of the third stage of labour. It is defined as the turning of the uterus inside out, usually following childbirth [1]. The frequency of this affliction is wildly varying in the reported literature [1,2]. It depends on the country and the

obstetric approach; it has been reported to be 1/20 000 in Europe and 1/2000 in the United States [1,2]. Two classifications of uterine inversion are used.

The first classification is according to the delay between the delivery and the diagnosis of the uterine inversion:

- The acute inversions arising immediately or within 24 hours after delivery.
- The subacute inversion occurring after the first 24 hours and within four weeks after delivery (like our patient).
- Finally the chronic inversion arising after more than four weeks after the delivery [1].

The prevalence of each class of inversion is 83.4 %, 2.62 % and 13.9 % respectively [3].

The second classification is the most used. It is based on the anatomical severity of the inversion. It includes four stages [1]:

- First Stage: the uterine base is in the uterine cavity and did not cross the cervix of the uterus
 - Second stage: the uterine base crossed the cervix and passed in the vagina.
 - Third stage: the uterine base is exteriorized at the vulva.
 - Fourth stage: vaginal walls participate to the inversion.
- Some reported papers merge the third and the fourth stages [4].

The mechanism of the uterine inversion is not completely determined. However, extrinsic factors such as oxytocic arrest after a prolonged labour, umbilical cord traction or abdominal expression are pointed [5,6]. Intrinsic risk factors were also reported such as primiparity and pauciparity [1,4,7]. The other intrinsic factors are uterine hypotonia secondary to twin pregnancy and betamimetic, fundic or accrete placenta, fundic myoma or short umbilical cord [4,8]. The diagnosis of the puerperal uterine inversion is mainly clinical. It is based on three elements: haemorrhage, shock and a strong pelvic pain [1,9]. The haemorrhage strength is directly connected to the inversion duration. The bleeding is massive in more than 70 % of cases and the shock is the most constant sign [10,11]. It results from hypovolaemia which is secondary to bleeding and to vagal reaction associated to the stretching of the nervous fibres contained in uterine ligaments [9-11]. The sudden severe pain is less frequent and is present in 7 to 10% of cases [12]. It can be

covered by the anaesthesia [10]. The diagnosis of complete inversion is not difficult. It consists of visualizing the fleshy and bloody mass which is exteriorized by the vulva [9,11]. The absence of the uterine base during the abdominal palpation confirms the diagnosis [7]. However, the diagnosis is less straightforward in inversion cases of first and second stages. Indeed, the absence of uterine base could be replaced by a fundic cupula [2,9]. The uterine revision, the vaginal touch demonstrated the destruction of the uterine base in the uterus or in the vagina [1,9,11]. (Not sure I get what author is trying to say) Treatment of the puerperal uterine inversion is urgent. It is based on a medical correction of shock associated with a trial of manual reduction [1]. In order to maximise the relaxation of the uterus before the reduction, a reported literature recommend using a neuromuscular relaxant molecules [13] such as the magnesium sulphate, deprived of any vasodilator effect, and betamimetic. At present, nitrate based products are mostly used through intravenous injection since they allow a rapid relaxation of the cervix whenever the hemodynamic state allows [13]. General anaesthesia is indicated when muscular relaxant drugs fail [13,14]. The manual reduction is done either using simple taxi [1] which consists of uterus desinvagination by starting from the center when the cervix is relaxed and from the boundary for a tight cervix. The Johnson process consists of pressuring the level of cervicovaginal cul-de-sacs using fingers and the base using the palm of the hand [2,15]. In these last two techniques the hand is kept in the uterus for few minutes [1,15]. The antibiotherapy and uterotonic are recommended after desinvagination in order to avoid an immediate recurrence which was previously reported [16,17]. Whenever the manual reduction approach fails, the surgical approach becomes imperative; and various techniques were suggested [1]. In our case we used the Huntington technique consisting of a desinvagination by progressive traction of the round ligaments, a third part assistance was obtained through vaginal canal [1]. The Haultain technique is indicated in case of failure of the first one that might be by a cervix striction. It consists of posterior median hysterotomy for avoiding the bladder, extending within 5 to 6 cm and reaching the cervical ring for achieving an easier desinvagination [1]. The Spinelli method consisting of anterior median colpohysterotomy through the vaginal access allows removal of the cervical striction [1]. Finally, hysterectomy is indicated for a gangrenous or haemorrhagic uterus despite the reduction and medical treatment. This should be the final resolution [5,13]. The risk of recurrence by a posterior delivery does not seem to be increased, but the uterus has to be considered as scared organ in case of anterior surgical reduction [5,6,12,18]. In the long term, urinary and pelvic static disorder might be recorded [18].

Conclusion

The puerperal uterine inversion is a rare and severe pathology. Its diagnosis is essentially clinical. The treatment has to be immediate. This associates a medical reanimation and a rapid manual reinversion for avoiding invasive surgical approach. The prevention is essentially based on the eviction of extrinsic factors.



Figure1

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