

CASE REPORT

Case reports on puerperal uterine inversion: A rare potentially life threatening obstetric complication

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ABSTRACT

Puerperal uterine inversion, an unusual avoidable complication of third stage of labour, where uterus turns inside out, which if neglected can contribute to maternal morbidity and mortality owing to haemorrhage and shock. However, timely appropriate intervention can reduce both. More the delay in diagnosis, more the chances of mortality and more invasive therapeutic procedures warranted. Hence, knowledge on diagnosis and management has to be emphasized by every obstetrician.

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Uterine inversion is defined as 'the turning inside out of the fundus into the uterine cavity'. Puerperal uterine inversion is one of the most serious third stage complications, although rare, can be life threatening. Incidence varies ranging from 1:2000 to 1:50000 [1] reflecting the quality of conduct of the third stage of labour. Among the aetiologies, premature cord traction despite uterus being relaxed is commonly implicated, others being morbidly adherent placenta and abnormally short cord. Successful treatment depends on prompt recognition and correction of the inversion and of the postpartum haemorrhage which accompanies 65 to 94% of cases [2].

The following are 2 case reports of obstetric inversion presenting at different time intervals following delivery, resulting in the differences in their management.

Case report 1: A 22year old primi- para at day 2 puerperium, referred from a private hospital where she received initial resuscitation, presented to emergency labour room with bleeding per vagina following spontaneous vaginal home delivery of a 3 Kg female child. Also patient complained of severe pain in the lower abdomen. There was history of forceful pulling of cord following failure of expulsion of after products after 10-15 min following delivery.

On examination, patient was severely pale with signs of dehydration. She had pulse rate of 128/min and Blood Pressure (BP): 90/60 mmHg. Uterine fundus was not palpable per abdomen, and there was tenderness elicited in hypogastric area. On speculum examination, round boggy congested mass was seen in the vagina, suggestive of uterine fundus. However, cervix could not be visualised.

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On bimanual examination, uterine fundus was not palpable and cervical ring was felt around the boggy mass, which was seen per speculum. Fornices were shallow. All these findings confirmed Subacute Complete Uterine Inversion, 2nd degree. Investigations revealed Hb:6.6gm%, Total WBC Count : 30,760/dl and C - Reactive Protein level of 356mg/dl.

Aggressive resuscitation with IV fluids was done. Manual replacement was not feasible and hence a trial of hydrostatic replacement under GA was given. A wide diameter tube connected to 3litre normal saline container with a pressure infuser, was placed at a height of 2-3 meter. The infusion tube was guided into posterior fornix by one hand which also cups the fundus. Other hand was used to seal the introitus. An assistant was asked to reinforce the seal, ensuring very minimal leakage through vagina. Instillation of large amount of warm saline into the upper vagina led to distension of the fornices, pulling open the cervical ring with the replacement of the uterine fundus, correcting the uterine inversion.

Oxytocin infusion continued for 5-6 hours followed by inj. Methergin intramuscularly (IM), thrice daily (TDS) for 3 days to sustain the uterine contraction. 3 units of blood transfused. Patient sustained fever for initial 2 days accompanied by tachycardia ranging between 130-140/min. Broad spectrum intravenous (IV) antibiotics and paracetamol infusion were given. Ultrasonography (USG) scan done on day 2 of reposition, confirmed the correction of uterine inversion. Patient recovered gradually and was discharged on day 5 post hydrostatic replacement.

Case report 2: Another patient, 24year old primi para, presented at day 32 puerperium with on and off episodes of bleeding per vagina since the spontaneous vaginal delivery of a 3.4 Kg male child at home, which was assisted by a health assistant. However, the patient gave history of heavy bleeding immediately following delivery, which was controlled after resuscitation in a peripheral hospital. Also patient complained of occasional bouts of fever. On examination, patient was severely pale (Hb:5 gm%), febrile and appeared weak. Her Pulse rate was 96/min

and BP: 110/70 mm of Hg. Pinkish globular firm mass was visualized on per speculum examination, which on manipulation showed multiple small oozing points. Cervix was not visible. On per vaginal examination, a thick cervical ring was felt surrounding the firm mass with shallow fornices. Uterine fundus was not palpable bimanually. These findings confirmed Chronic Complete Uterine Inversion of 2nd degree.

Primarily, the patient's general condition was improved with 4 units of blood transfusion, antibiotics, antipyretics and good nutrition, following which laparotomy for surgical repositioning of the uterine inversion was planned. On laparotomy, Haultain's [1] technique was followed by placing a longitudinal incision over the posterior wall of cervical ring and the uterus was repositioned by applying gentle upward traction with the help of two Allis forceps. The incision was repaired in two layers. Huntington's [1] repair (myometrium just inside the dimple of the inverted uterus is grasped with Allis forceps to withdraw the inverted fundus without any incision) was not feasible here owing to the stiff cervical ring. Patient received antibiotics, and was on IV fluids for one day. She improved gradually and was discharged on 5th post operative day.

Discussion

Uterine inversion is an unusual dreadful complication of the puerperium, owing to very minimal time available in reviving the patient, once she develops severe post partum haemorrhage (PPH) and shock. It is classified as acute if the inversion has occurred without cervical contraction, subacute if cervical contraction is present and chronic if more than 4 weeks have elapsed since inversion and cervical contraction [3].

The severity of uterine inversion has been classified into four groups: 1st degree: fundus inverted to the level of cervix; 2nd degree: fundus inverted below the cervix but not to the introitus; 3rd degree: fundus inverted to the introitus; and 4th degree: complete uterine inversion associated with vaginal inversion. When uterine inversion presents acutely (<24

hours of delivery), Johnson's Manoeuvre [4] or manual replacement, may be tried after stabilizing the patient. In this manoeuvre, the uterine fundus, with or without the attached placenta, is cupped in the palm of the hand, the fingers and thumb of which are extended to feel the utero-cervical junction. The whole uterus is lifted up towards and beyond the umbilicus. Additional pressure is exerted with the fingertips to systematically and sequentially push and squeeze the uterine wall back through the cervix. This pressure may have to be sustained for 3-5 minutes to achieve complete replacement. Once, fundus has been replaced, the hand is still placed in the uterus, while a rapid infusion of oxytocin is given to contract the uterus. When the uterus is felt to contract the hand is slowly withdrawn. The sooner the manual replacement is undertaken the more likely it is to succeed with ease. With suitable anaesthesia and tocolysis within two hours of diagnosis, it is usually successful [1].

When this fails or in case of subacute presentation, O Sullivan's hydrostatic replacement, as described earlier is to be tried. Hydrostatic replacement of uterine inversion is a life saving conservative procedure obviating the need for surgery. In 1945, JV O'Sullivan [5] published the first report of two cases describing hydrostatic replacement of the uterus following acute uterine inversion.

More recently, Ogueh and Ayida [6] described a new technique of hydrostatic replacement with the use of a Silastic ventouse cup inserted into the vagina. When these attempts are unsuccessful, surgical correction becomes necessary. Other than those described in the case report for treating chronic inversion, there are also two vaginal methods : Spinelli's [7,8] , consisting of anterior median colpohysterotomy through the vaginal access which allows removal of the cervical stricture and Kustner's [8], consisting of posterior median colpohysterotomy. The abdominal route is preferred over the vaginal as the incision of the uterus is reduced to a minimum, traction on the round and broad ligaments helps in reposition, the uterine wall can be more accurately sutured and haemorrhage more efficiently controlled [9].

This also explains the preference of abdominal approach in our case.

Novel techniques, which require scientific studies to demonstrate their efficacy and safety, including the use of obstetric vacuum extractor (ventouse) to reverse the uterine fundus [10] or surgical resolution by laparoscopy [11] have also evolved.

Despite various methods described above, prevention is of utmost importance as it averts maternal morbidity and mortality. In this view, Active Management of Third Stage of Labour (WHO – AMTSL 2012) should be religiously practised, which includes: uterotonic - oxytocin 10 IU IM/IV, controlled cord traction and uterine massage.

Conclusion

Prevention is better than cure and hence, WHO guidelines are to be followed in the management of third stage of labour. Especially in our scenario, health assistants in the periphery should be trained efficiently to conduct labour. Institutional deliveries should be encouraged. And once uterine inversion occurs, early diagnosis and appropriate management lies the key to ensure a healthy mother. Being an unusual occurrence, awareness regarding righteous identification of this complication and efficient management should be emphasized by every obstetrician.

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Picture1



Picture 2