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CASE REPORT

Acute Puerperal Uterine Inversion : Case Report

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ABSTRACT

Acute puerperal uterine inversion may cause severe blood loss and death. Rapid diagnosis and rapid reposition of the prolapsed uterus are the important points of management.[1] To avoid the invasive methods and delayed treatment, anesthetic gas and tocolytic agents were used to relax constricted cervical ring.[1,2] Tocolytic agents were advocated as the drugs of choice. The patient in this report had two episodes of acute puerperal uterine inversion. She was profounding shock and drowsy conscious, but manual reposition was successfully done. The first attempt was without tocolytic agents or anesthetic gas. The second attempt was under halothane inhalation. The rationale of choosing halotane instead of tocolytic agents will be discussed.

Key words : uterine inversion.

Case Report

A-30-year-old woman, Gravida 2, Para 1, was admitted to Lampang Hospital on 10th August 1997. She had labour pain for 2 hours before admission. Her antenatal obstetric history was uneventful. Pervagina examination at admission time revealed 6 cms. dilatation of cervix, 100% effacement, engaged fetal vertex and intact fetal membrane. Five hours after admission, the patient had spontaneous vaginal delivery and gave birth to a full term female baby weighing 3100 g with an Apgar scores of 10. Twenty minutes after delivery, the patient experienced brisk vaginal bleeding and her uterine wall with placenta adhered to it protruded through her vagina. Third degree or complete uterine inversion was diagnosed. Immediate replacement and manual removal of placenta was done. General conditions of the patient were good and her blood pressure was 100/70 mmHg Oxytocin 20 units in 1,000 ml saline solution was infused 30 drops per minute

and 1 ampule of methergine was intramuscular injected. The estimated blood loss was about 500 ml. Her vital signs were all in within normal range with moderate uterine tone palpated. Vagginal bleeding occured again two hours in the postpartum period. Uterine fundus was not found during abdominal examination and pervagina examination revealed a soft mass in the vagina with an irregular surface. The patient was faint, sweating drowsy and had pain at the lumbar area. Her blood pressure dropped from 100/70 mmHg to 50/30 mmHg with a heart rate of 104 beats per minutes. Immediate resusscitation of shock began using Lactated Ringer's Solution 2,000 ml and 500 ml of whole blood. Her blood pressure was raised from 50 mmHg systolic pressure to 80/40 mmHg and she gained consciousness. Transvaginal reposition was tried but failed due to strong resistance of the cervical ring. Halothane inhalation was used to relax the cervical ring and manual reposition was easily done. While manually maintaining the position in the uterine cavity, Nalador in 500 ml saline solution was given intravenously. Bleeding suddenly stopped. She had good respiration. The hand was carefully withdrawn after strong uterine contractions was felt. The patient was fully awake and pain at lumbar area disappeared. Estimated blood loss was 2,000 ml during the second episode. The patient received 500 ml of whole blood, 800 ml of packed red cells and 4,000 ml of isotonic solution. She had good consciousness and good respiration. She could breast feed the following day. The patient was in good condition and was discharged four days after delivery.

Discussion

Inversion of uterus is rare but potentially catastrophic complication during the third stage of labor.[1-4] This condition has maternal morbidity and mortality as high as 13-41% of cases.[1] According to Lampang Hospital Obstetric records for 3 years, there were 18,013 patients in the labor unit. There was only one case uterine inversion during this period. Although most uterine inversion are caused by mismanagement of the third stage labour, recent reports showed 15-50% of the inversion occured spontaneousely.[1,2] Successful treatment depends on prompt recognition and correction of associated clinical conditions.[1,2] Diagnosis of uterine inversion can be easily made by physical examination.[1-4] The uterine fundus will not be found in it's normal position but a cuplike depression will be detected. Firm round mass with active bleeding will be found in vagina. Treatment consists of : managing shock ; replacing the uterine corpus ; and removing the placenta. If the placenta has become partially detached prior to replacement, the remainder should be removed before further manipulation. In this case when first inversion occured, attached placenta prevented excessive hemorrhage, estimated blood loss was about 500 ml, without clinical of shock. The uterotonic agents (oxytocin and methergin) used after reposition usually maintained good contraction of the whole uterus.[3,4] But in this case both failed. Uterotonic agents themself caused cervix constracted that made repositioning difficult during the second inversion. Uterine inversion with contracted cervix usually required generalized anesthesia before repositioning. Cantanzarite and colleagues advocated tocolytic agents instead of general anesthesia.[6] Four compelling reasons were outlined for the abandonment of traditional practices : (1) an anesthesiologist is not always immediately available on all labour and delivery

units, but tocolytic agents are always present ; (2) rapid anesthetic induction of the unprepared patient who is hemodynamically unstable entails substantial risk ; (3) halothane, the fluoridated hydrocarbon of choice, produces direct myocardial depression in concentration required for uterine relaxation ; and (4) the uterine relaxation effect of halothane takes several minutes to reverse and can result in significant hemorrhage once replacement is accomplished. In this case we used halothane anesthesia instead of tocolytics because of : 1) hypovolemic shock in this case is contraindication for betasympathomimetic drugs ;[1] 2) Intravenous $MgSO_4$ takes 5 minutes for injection. This will cause significant blood loss from implantation site, 3) many reports found no severe maternal morbidity after halothane use.[7-9] Accepted that the principal features of actual puerperal uterine inversion are hemorrhage, shock and pain and hemorrhage is the single most common feature of inversion occurring in 94% of all cases.[1] We can say that the use of betasympathomimetics maybe harmful in most cases of pueperal uterine inversion. Repositioning under general anesthesia is the better choice and is almost always required in third degree inversion ; as in this case. Prostaglandins serve to minimize bleeding and to maintain uterine position after replacement.[6,9] Repositioning of an inverted uterus can be accomplished via conservative (nonsurgical) or surgical approaches. According to nonsurgical approach, manual replacement originally described by Johnson's. The inverted fundus grasped in the palm of the hand with the fingers directed toward the posterior fornix. Positioned the tips of fingers at uterocervical junction. The entire uterus lifted out of the pelvis and directed with steady pressure toward the umbilicus. The countertraction by uterine ligaments widen the cervical ring and allowing the fundus to pull through the ring and restore it to a normal possition.[1,8] Henderson and Alles modified this maneuver by applying forceps to the cervical ring for additional countertraction. O'Sullivan described the use of hydrostatic pressure. The warm saline quickly flow into the vagina. The operator's hand and arm block the introitus and escape of fluid. As the vaginal wall begin to distend upward, pressure forces the fundus back into its original position.[1] Surgical methods are still important for those patients who have subacute and chronic uterine inversion.[11]

References

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Johnson's method

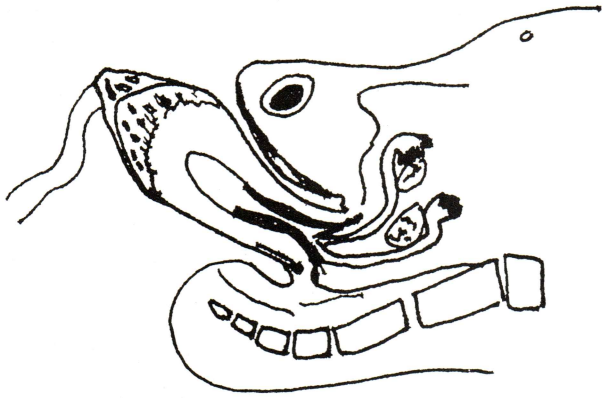

Fig. 1. Complete uterine inversion with fundally implanted placenta attached.

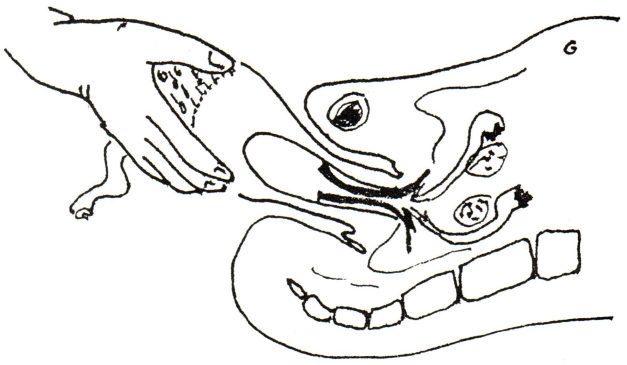

Fig. 2. The inverted fundus grasped in the palm of the hand with the fingers directed toward the posterior fornix.

Fig. 3. The uterus lifted out of the pelvis and directed with steady pressure toward the umbilicus.

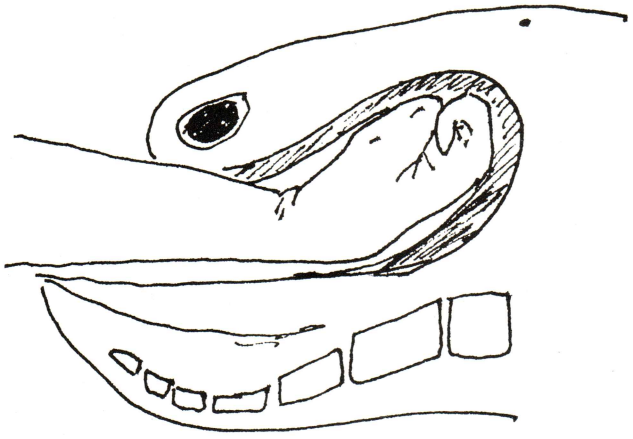

Fig. 4. The repositioned uterus.

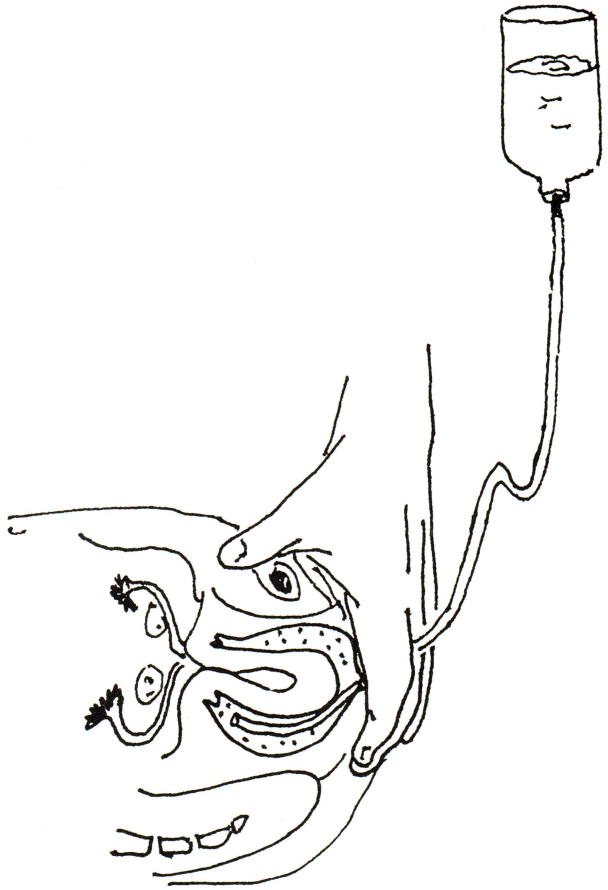

Fig. 5. O'Sullivan hydrostatic pressure technique.