

A Historical Technique for Replacement of Postpartum Uterine Inversion: A Case Report

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Acute puerperal uterine inversion is an unpredictable life threatening obstetrical complication. The etiology is unknown; but, traction of the umbilical cord before detachment of placenta and application of pressure over fundus are blamed and considered as risk factors. We are reporting a case of uterine inversion in which the uterus could not be replaced manually due to cervical constriction ring, and in which the uterus had to be replaced using a method described originally by Spinelli.

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Key Words: Uterine inversion, Spinelli operation

Introduction

Uterine inversion was first described by Hippocrates (400-370 BC). Acute uterine inversion is a life threatening complication of the tertiary stage of the labor. The incidence was reported as 1/5000. Maternal mortality was reported as 15%.¹ Although the real reason is not known; the traction of cord before placental separation, Crede maneuver, the manual extraction of placenta after vaginal birth or cesarean section are accepted as risk factors.² Acute uterine inversion seriously threatens maternal health and may progress to hypovolemia and

shock. Emergent intravenous volume replacement should be provided to the patient to ensure hemodynamic stability. In order to replace the inverted uterus, sufficient uterine relaxation is required. For this, β -agonists and inhalation anesthesia are recommended. In most of the cases, the replacement of the uterus can be achieved manually with proper management. When the uterus can not be replaced manually, several laparotomy methods are offered. In this case; we succeeded to replacement of the uterus into pelvis using Spinelli method (Figure 1).

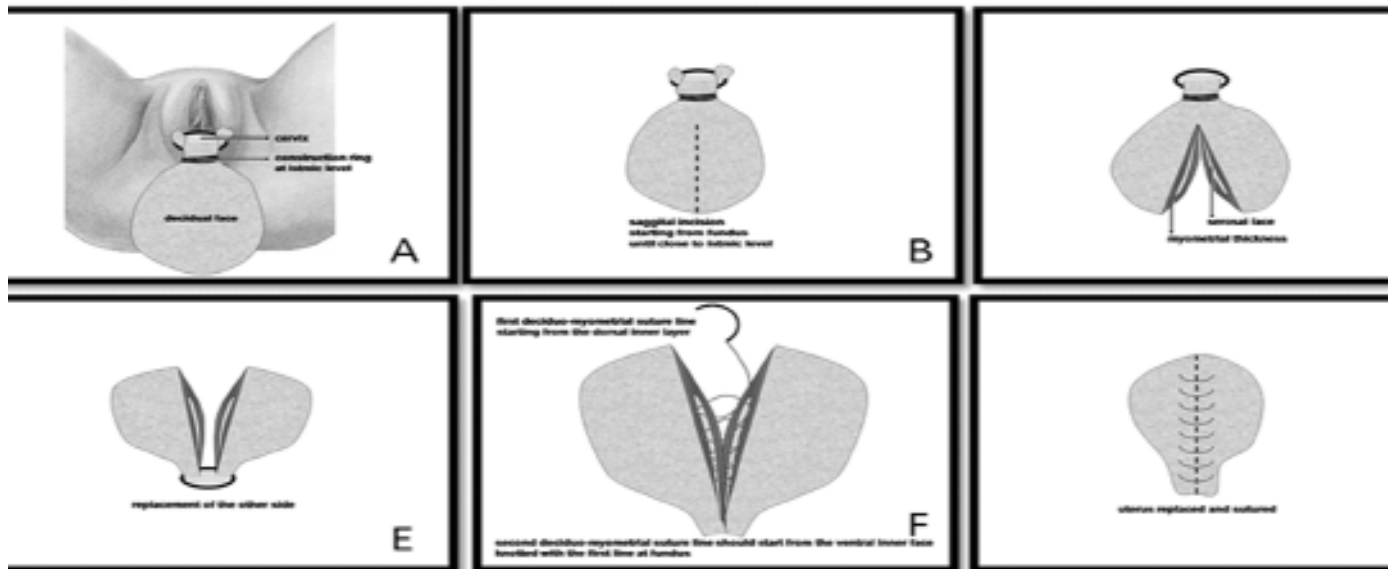


Figure 1: (A,B,C,D,E,F,G,H): The views of uterin inversion and replacement with method of Spinelli

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Case Report

A 23 year old primiparous pregnant woman at term was induced for labor due to oligohydramniosis. The second stage of labor lasted for 45 minutes in this patient who did not have any obstetrical and medical problems previously. A 3400g. male fetus was delivered using a right mediolateral episiotomy. Placenta was extracted without any enforcement and

with no resistance by traction of cord. Instantly a 10 cm sized red mass was observed protruding out of the vagina, which was defined as inverted uterus. Since it could not be replaced manually, anesthesia department was consulted, and additional intravenous lines were opened, volume expansion by Gelofusine® (Gelatine 40g/l, B.Braun-Irengun) was started. Terbutaline infusion was initiated through another intravenous line, in for uterine relaxation. Manual replacement trial failed again due to the now apparent constriction ring around the cervix. Following this, the patient was transferred into operation room and inhalation anesthesia was given. Although this provided some uterine relaxation, replacement was still not possible through the constriction ring on the cervix. This led to the decision of laparotomy, and we entered the pelvis through a Pfannenstiel incision. Uterus along with the adnexae were absent within the pelvis, making it impossible to correct with Huntington and Haultain methods, and also a cesarean hysterectomy was impossible.

Spinelli method was an alternative in this situation and we did a sagittal incision to the uterus starting from the decidua and progressing through the myometrium until reaching serosal surface. The incision was extended from fundus to istmic portion. This separated the corpus into two pieces which were pushed into the abdomen from below, through the vagina, along with the adnexae connected. Later on, uterine incision was repaired with 2 no chromic catgut in double layer, and intramuscular methylethergonovine maleate injection was injected into the lesion (Figures A,B,C,D,E,F,G,H). During the operation, 4 units of erythrocyte suspension were infused. Post operative period was normal and patient was discharged on the postoperative 7th day.

Discussion

As stated earlier, the exact etiology of uterine inversion is not known; but it is thought to develop secondary to the presence of a fundal placenta and strong traction on the umbilical cord. Other blamed factors are Crede maneuver, atonic uterus, placenta accreta, short umbilical cord, congenital weakness and anomalies of the uterus, magnesium and oxytocin infusion used during antepartum period, and grand multiparity.

Besides; fast evacuation of uterus can be accepted as an additional predisposing factor.²

The diagnosis of acute uterine inversion can be done clinically. Classically, patient has lower abdominal tenderness and severe pain. In physical examination; the presence of disturbances in hemodynamic parameters, the deficient palpation of uterine fundus abdominally together with hypovolemic shock, and the observation reddish mass at vagina and/or vulva can be observed, confirming the diagnosis. Puerperal inversion can be categorized into 4 groups according to the level of the

protrusion of the uterine fundus.³

1st degree: fundus at cervix; 2nd degree: fundus at vagina; 3rd degree: fundus at introitus; 4th degree: fundus below the level of introitus.

The vaginal reposition method of inverted uterus is known as Johnson method.⁴ Here the inverted uterus is tried to be repositioned from fundus towards umbilicus of patient. At this time, if placenta is not detached completely, repositioning should be achieved without waiting for detachment; otherwise massive atonic bleeding can be observed following placental detachment.

The success rate of this method is reported between 22-43%.⁴ The success rate can be increased by supplying uterine relaxation. IV terbutalin (0.25mg) is appropriate since it has rapid action, if hypotension and tachycardia can be seen in the patient; 2gr magnesium sulphate can be used as an iv bolus.

A modified version of manual replacement was described by O'Sullivan.⁵ In this technique; by the help of sterile saline solution at body temperature, a hydrostatic pressure is applied to the vagina and uterine reposition is tried. But, due to resistance at cervix, the failure rate is high. Recently; a modified version of this technique is achieved by the use of silastic vacuum.⁶

If manipulations fail, laparotomy is needed for the correction of uterine inversion. Two techniques are defined:

1) Huntington method: Here two Allis clamps are used to grasp the inversion ring 2cm inferiorly, and gentle traction is applied. Later on, by catching from 2cm inferior to these forceps, upwards traction is done, and traction is continued till correction of inversion is achieved.⁷

2) Haultain Method: If Huntington method fails, the most probable reason is the constriction at cervical ring. If so, cervical ring is incised vertically and posteriorly, after relaxation of constriction, reposition is achieved. Incision is sutured by 2/0 or 3/0 chromic catgut.⁸

In these 2 methods; uterus is replaced abdominally. But in our case; both methods were seemed impossible to reposition uterus abdominally, also hysterectomy was impossible.

For our situation, vaginal route defined first by Spinelli in 1897 was accepted to be more appropriate.⁹

In this method, uterus is separated into 2 halves by a vertical incision done on the midline of uterus and then placed into abdomen and repaired primarily.

In conclusion, one should keep in mind that, in inversion cases where abdominal replacement is impossible, a historical surgical procedure defined by Spinelli could be considered as an efficient option.

Postpartum Uterus Inversiyonlarının Düzeltilmesinde Tarihi Bir Teknik: Olgu Sunumu

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Akut puerperal uterin inversiyon hayatı tehdit eden ve önceden tahmin edilmesi mümkün olmayan obstetrik bir komplikasyondur. Etiyolojik olarak sebebi net olarak bilinmesede presentasyonun ayrılmadan kord traksiyonu ve fundal bası uygulanması muhtemel risk faktörü olarak suçlanmaktadır. Vaginal doğum sonrasında uterin inversiyon gelişen ve serviksde oluşan konstriksiyon halkası sonucunda uterusun manuel olarak repoze edilemediği bir olgumuzda Spinelli tarafından ilk kez tarif edilen yöntem ile uterusun pelvise yerleştirildiği bir olguyu sunuyoruz.

Anahtar Kelimeler: Uterus inversiyonu, Spinelli operasyonu

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