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

K. Emre KARAŞAHİN, Kazım GEZGINÇ, İbrahim ALANBAY, Mustafa ULUBAY, Anna SULA, Esat ORHON

Ankara, Turkey

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%. 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. 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

Case Report

A 23 year old primiparous pregnant woman at term was induced for labor due to oligohydramnios. 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

Department of Obstetrics and Gynecology, Gülhane Military Medical Academy, Ankara, Turkey

Address of Correspondence: Kazım Gezginç
Gülhane Military Medical Academy
Department of Obstetrics and Gynecology Etilk Ankara, Turkey
kazimgezginc@hotmail.com

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

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.¹

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.² Here the inverted uterus is tried to be repositioned from fundus towards umbilicus of patient. At this time, if placenta is not detached completely, reposisioning should be achieved without waiting for detachment; otherwise massive atomic bleeding can be observed following placental detachment.

The success rate of this method is reported between 23-43%.³ 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.⁴ 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.⁵

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 inferiory, 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.⁶

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.⁷

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.⁸

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 Düzelttilmesinde Tarihi Bir Teknik: Olgu Sunumu

K. Emre KARAŞAHİN, Kazım GEZGİNÇ
İbrahim ALANBAY, Mustafa ULUBAY
Anna SULA, Esat ORHON
Ankara, Türkiye

Akut puerperal uterin inversiyon hayatı tehdit eden ve önceden tahmin edilmiş olmaman obstetrik bir komplikasyondur. Etyolojik olarak sebebi net olarak bilinmesedeプレゼンセ ayırılmadan kord traksiyonu ve fundal bası uygulanması muhtemel risk faktörler olarak suçlanmaktadır. Vaginal doğum sonrasında uterin inversiyon gelişen ve servikste oluşan konstriksiyon halkası sonucunda uterusun manuel olarak repoze edemediği bir olgumuzda Spinelli tarafından ilk kez tarihe edilen yöntem ile uterusun pelvise yerleştirildiği bir olgu sunuyoruz.

Anahtar Kelimeler: Uterus inversiyonu, Spinelli operasyonu

References: