

Complete, infected, chronic, nonpuerperal uterine inversion: A case report

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ABSTRACT

Most gynecologists may not encounter a case of nonpuerperal uterine inversion in their practice. We present the case report of a 35-year-old grand multipara who presented with 2 years history of a protrusion per vaginum that was complicated by profuse vaginal bleeding and hemorrhagic shock. A diagnosis of complete infected nonpuerperal uterine inversion was made. The patient was resuscitated with intravenous fluids, blood transfusion, and antibiotic therapy. She had vaginal hysterectomy. Nonpuerperal uterine inversion can pose a diagnostic dilemma to the unwary physician and its management can be challenging.

Key words: Inversion; nonpuerperal; uterine.

Introduction

Non puerperal uterine inversion is not a very common condition. Many gynaecologists may not manage such patients during the course of their practice.


Case Report

A 35-year-old P₈⁺⁰ (5 alive) was referred from a general (district) hospital with a diagnosis of utero-vaginal prolapse for further management. She presented with 2 years history of protrusion per vaginum and recurrent bleeding from the protrusion of 1 month duration. The vaginal protrusion, which was initially reducible, progressively increased in size with associated lower abdominal pain. Six weeks prior to presentation, it began to discharge pus associated with intermittent bleeding of 4 weeks duration. The bleeding was initially mild but became severe, leading to loss of consciousness necessitating presentation to the hospital. There were no urinary symptoms or weight loss.

She had spontaneous vaginal deliveries in all her pregnancies with uneventful labors and puerperia and her last child birth was 3 years ago. She had no history of menorrhagia or intermenstrual bleeding. She was never diagnosed having uterine fibroids and there was no other associated comorbidity. She was the second of two wives of a farmer. Her social history was not contributory.

On examination, she was found to be severely pale and in shock with a pulse rate of 120 beats per minute, which was of small volume and blood pressure of 80/40 mmHg. There was no abdomino-pelvic mass palpable. Pelvic examination revealed an hemorrhagic mass with some areas of necrosis protruding through the vagina; it measured 10 × 8 cm² with a well-circumscribed hard mass attached to the lower end that measured 4 × 4 cm². A constriction band was felt within the vagina around the protruding mass. Rectal examination

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confirmed a firm to hard anterior mass, which was mobile and slightly tender and there was no clearly defined uterine fundus. A diagnosis of complete infected chronic uterine inversion with severe anemia was made. Vaginal view of the mass is shown below in Figure 1.

She had a packed cell volume of 14%. Pelvic ultrasound revealed an abnormal-shaped uterus with dimpling at the fundal region. The endometrial lining was not clearly defined. There was a complex cervical mass continuous with the uterus and vagina, which measured $4.1 \times 2.2 \text{ cm}^2$.

She was admitted and resuscitated with intravenous normal saline and transfused with four units of blood together with broad spectrum intravenous antibiotics. She also commenced sitz bath with hypertonic saline twice daily. She was counselled on the diagnosis and surgical treatment options. She consented to vaginal hysterectomy. After about 1 week on admission, her preoperative packed cell volume was 30% and other biochemical investigations were normal.

Under general anesthesia, examination under anesthesia was performed to confirm the diagnosis. After the lower limit of the bladder was identified using a metal catheter, a vertical incision was then made from the cervico-uterine junction to the inverted fundus and this exposed the round ligament, fallopian tubes, and the ovarian ligament which were each double clamped, cut, and ligated with vicryl 2 on both sides. Stay sutures were left on the round ligament. Both cardinal ligaments were clamped, cut, and ligated with vicryl 2 with the ligature left long. Debulking of the mass was then done and this included the whole of the inverted uterus and cervix. The vaginal vault was held with Kocher forceps and the same was overrun with continuous locked vicryl 1 suture. The lateral angles of the vault were tied to the ipsilateral

cardinal and round ligaments followed by approximation of both sutures at the midline [Figure 2].

Her postoperative recovery was uneventful and she continued her intravenous fluids, antibiotics, and analgesics. Her postoperative packed cell volume was 32% and she was discharged home on the 7th postoperative day.

She was seen for follow-up after 2 weeks and she had no complaints. She was to be seen after another 4 weeks but she was lost to follow-up.

Pathology report revealed that the uterus measured $14 \times 8 \times 10 \text{ cm}^3$ and weighed 467 gm. Cut section of the uterus showed an empty uterine cavity. Fundal endo-myometrium showed areas of necrosis, inflamed granulation tissue, dilated vascular channels, and lymphoplasmic cell infiltrates. The conclusion was that of uterine inversion with associated necrotizing inflammation.

Discussion

Uterine inversion is a rare complication of delivery. A nonpuerperal uterine inversion is even rarer with only less than 200 cases published in the literature since 1887.^[1] The fact that many gynecologists might never see any in their entire practice gives a clue as to its infrequent nature.

Nonpuerperal uterine inversion is usually precipitated by tumors sited at the fundus of the uterus which exert traction force to cause the inversion, although some cases have been reported with no association with tumor as was seen in this case.^[2] Although the fundal mass described by the pathologist as necrotic endomyometrium may be a markedly degenerated fibroid, when tumors are present they are usually benign-like submucous myomas in over 70% of cases; malignant in 20%



Figure 1: Vaginal mass at presentation



Figure 2: Vaginal cuff following vaginal hysterectomy

and idiopathic in 8% of cases.^[3] Most nonpuerperal uterine inversion are chronic with about 8.6% being acute.^[4]

Diagnosis of uterine inversion in nonpuerperal cases often presents a clinical challenge to the attending gynecologist and requires a high index of suspicion. In chronic cases, the diagnosis is difficult with differential diagnoses of prolapsed fibroid and uterovaginal prolapse made.^[5] The above patient was wrongly diagnosed to have procidentia and was referred to our hospital for further management. Symptoms associated with nonpuerperal uterine inversion are vaginal bleeding, vaginal tumor (mass), lower abdominal pain, and urinary symptoms.^[6] This patient presented with vaginal bleeding and a vaginal mass.

On examination, one may find a mass coming out through the cervix without definite margins of a cervix. The absence of the uterine fundus or fundal dimpling during bimanual or rectal examinations is strongly suggestive of the diagnosis. The openings of fallopian tubes may at times but not always be visible as the endometrium surface is dragged outside. Constriction ring of cervix may be felt in complete uterine inversion.^[1] This was observed during the initial assessment of this patient.

Ultrasound scan is a simple, safe, and cheap imaging modality and assists in the diagnosis of uterine inversion. Indentation of the fundal area and depressed longitudinal groove extending up to the center of the inverted uterus are suggestive features. Magnetic resonance imaging usually reveals “U”-shaped uterine cavity, thickened and inverted uterine fundus on sagittal section and “bull’s eye” configuration on an axial image.^[1]

Various surgical techniques have been employed in the management of nonpuerperal inversion. Haultain and Huntington procedures are performed abdominally while Spinelli and Kustner procedures are transvaginal procedures.^[7] Depending on the patient’s reproductive desire and associated conditions, surgical repositioning or hysterectomy could be considered.^[2] Most surgeons use the abdominal route for hysterectomy. However, with some basic skills of the repositioning techniques, vaginal hysterectomy could be carried out safely. This patient had vaginal hysterectomy.

Fertility preservation is of concern when nonpuerperal uterine inversion occurs in the presence of infection and/or necrosis. There are no clear management strategies in these instances, and when the inversion is chronic, reverting maneuvers may prove difficult, rendering fertility-sparing techniques implausible.^[8] Our patient had six living children, was not desirous of future fertility, and presented with an infected inverted uterus, thus she had a vaginal hysterectomy done after due consent was obtained.

Conclusion

Nonpuerperal uterine inversion can pose a major diagnostic dilemma to the unwary physician, as it is associated with nonspecific clinical symptoms and mimic more common gynecologic conditions. Meticulous evaluation of all gynecologic cases will lead to prompt diagnosis leading to accurate management.

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Conflicts of interest

There are no conflicts of interest.

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