Abstract:

INTRODUCTION. Inversion of the nonpuerperal uterus is rare. A high index of suspicion is required to make a prompt diagnosis. We describe here a 48-year-old woman who was diagnosed with nonpuerperal uterine inversion clinically and ultrasonographically and successfully underwent vaginal hysterectomy in the Institute of Obstetrics and Gynecology, Egmore, Chennai. CASE PRESENTATION: A 48-year-old perimenopausal woman presented to our emergency center with complaints of a huge mass protruding from her vagina. At the time of laparoscopy an inverted uterus with a dimple containing bilateral round ligaments, infundibulopelvic ligaments and bladder was observed. She subsequently underwent vaginal hysterectomy and bilateral salpingo-oophorectomy. Pathologic examination revealed a necrotic submucous fundal fibroid. CONCLUSION: Chronic nonpuerperal inversion of the uterus is rare. Most of this condition is associated with either benign or malignant tumor arising from the uterine fundus such as submucous leiomyoma, sarcoma and endometrial carcinoma. Cases of complete and total uterine inversion are usually accompanied by constriction of the external cervical os that produce vascular stasis and in neglected cases, gangrene of the inverted uterus will occur. Infection should be suspected and appropriate broad spectrum antibiotics begun while planning surgery.

Keyword: Nonpuerperal uterine inversion, submucous fibroid

INTRODUCTION:

Chronic uterine inversion of the nonpuerperal uterus is an uncommon event, reported approximately 150 cases from 1887 to 2006 in the literature.

Chronic nonpuerperal uterine inversion is often associated with uterine pathology.
Prolapsed fibroids tend to be the most common inciting factor with occasional reports of inversion associated with uterine neoplasm and endometrial polyps. Three contributing factors proposed for uterine inversion are

1) sudden emptying of the uterus which was previously distended by a tumor

2) thinning of the uterine walls due to an intrauterine tumor, and

3) dilatation of the cervix.

The following is a case report of a woman who presented to our hospital with nonpuerperal uterine inversion secondary to a prolapsed necrosing submucosal fibroid, with accompanying uterine necrosis.

CASE DISCUSSION:

48 yr old P3L3 perimenopausal woman, a gardener, admitted with c/o mass descending per vagina for 2 months. Prior to the referral, she had a two-year history of menorrhagia and intermittent lower abdominal pain which got worse 2 months before her admission. She noted a very offensive vaginal discharge and a protruding mass in her vulva while working in the garden, for which she was admitted in vellore GH. There she was transfused with 2 units of blood and antibiotics, before she was referred to IOG.

She denied any difficulty in voiding, weight loss, change in appetite, fever or chills. She did report constipation. On General examination she was a thinly built and averagely nourished lady with signs of dehydration. Haemoglobin level was 8 g/dl; so one unit of cross-matched blood was transfused preoperatively IV fluids were started and broad spectrum Antibiotics were given. She was HIV negative and her preoperative work up was normal. No significant findings were noted in other systems.

On Local examination a large offensive necrotic mass attached to a smooth surfaced globular mass was seen. There was an approximately 10 cm well circumscribed mass, thought likely to be a fibroid, protruding six centimeters past the hymenal ring. It was greyish white in appearance; there was no active bleeding, and there appeared to be a thick broad base to the mass. Daily vaginal douching with Betadine and dressing done.

On rectal examination, uterus could not be felt.

On pelvic ultrasound examination, uterine fundus could not be identified which increased the suspicion of uterine inversion.

Biopsies taken from two sites of the mass revealed no malignancy.

Patient consented for hysterectomy and was prepared accordingly with intravenous fluids and antibiotics

Under spinal anaesthesia, patient was cleaned and draped in lithotomy position.

Laparoscopy was performed to confirm the diagnosis of uterine inversion.

Vaginal myomectomy was performed with the goal of restoring the inverted uterus to its normal anatomic state prior to proceeding with a vaginal hysterectomy, as the attempt was unsuccessful.

A transverse incision was made at the cervico-uterine junction, dissecting anteriorly till bladder was separated and
the anterior peritoneum was opened. A full thickness longitudinal incision was made from the level of the cervix to the fundus of the uterus, exposing this way both fallopian tubes, ovaries and round ligaments. These structures were clamped, transected and ligated bilaterally. The cardinal ligament, uterosacral ligament and uterine arteries were separately clamped, transected and ligated; permitting uterus to be extirpated. The peritoneum was closed and vaginal cuff transfixied to uterosacral and cardinal ligaments. Postoperative period was uneventful and patient was discharged on the fourteenth day.

**Histology of the tumor revealed a leiomyoma.**

**DISCUSSION**

Uterine inversion refers to a descent of the uterine fundus to or through the cervix, so that the uterus is turned inside out. Uterine inversion is a rare affection that occurs usually as a complication of deliveries. Non-puerperal inversion is extremely rare, representing about one sixth of all inversions. Non-puerperal inversions are usually caused by intrauterine tumors. Mwinyoglee et al. reported that 97.4% of uterine inversions are associated with tumors, out of which 20% were malignant. Takano et al. reported that 71.6% of cases of uterine inversion are associated with leiomyomas. Leiomyomas are common in ASIAN women as was with the case of our patient. Risk factors for uterine inversion: fundal attachment of tumor, thickness of the tumor pedicle, large tumor size, thin uterine wall, dilatation of the cervix. All these were present in our case.

Uterine inversions can be classified as follows:

- **Stage 1:** the inverted fundus remains in the uterine cavity
- **Stage 2:** complete inversion of the fundus through the cervix
- **Stage 3:** the inverted fundus protrudes through the vulva
- **Stage 4:** inversion of the uterus and the vaginal wall through the vulva.

Non-puerperal inversion can also be classified into acute and chronic uterine inversions. Our patient presented with a stage 4 inversion.

In chronic uterine inversions, surgery is imperative.

Vaginal and Abdominal approach
Vaginal-Spinell and Kustner techniques

Abdominal-Huntington and Haultain procedures

Trans-vaginal surgical reposition techniques

Spinell’s approach is anterior and requires dissection of the bladder and an anterior uterine wall

Kustner’s is a posterior approach with incision on the posterior uterine wall

• The Huntington operation consists of making an abdominal incision and grasping the uterus with Allis clamps just below the inversion cup. The cup is pulled up and another pair of Allis clamps grasp the uterus at a lower level; this procedure is repeated until reversion is completed.

The Haultain procedure

also performed by the abdominal route consists of incision of the constricting cervical ring posteriorly and reversion of the uterus by traction on the fundus CT-scan

Ultrasoundography

MRI

Investigations that confirm the uterine inversion:

Conclusion
Chronic nonpuerperal inversion of the uterus is uncommon with little more than 100 reports in the literature. Its presence should be suspected when a larger prolapsed fibroid is encountered. Biopsy of the mass is prudent given its occurrence with uterine malignancy. In chronic inversion secondary to a fibroid, infection of the fibroid and uterus should be suspected. An attempt at vaginal restoration and removal has been reported but is difficult. Abdominal hysterectomy may be necessary, taking care to locate the distal ureters, with intraoperative cystoscopy to ensure bladder and ureteral integrity.

**Reference:**


