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Case Report

The hidden twist: chronic uterine inversion masquerading in plain sight

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ABSTRACT

Spontaneous non puerperal uterine inversion is an exceedingly rare gynaecological event. When it occurs, it is often due to an intrauterine polypoid mass attached to the uterine fundus, eventually pulling the uterus inside out over time as the mass increases in time. Here we present the cases of postmenopausal women presented with mass per vagina. A clinical diagnosis of chronic uterine inversion due to pedunculated submucous fibroid was made and was surgically managed.

Keywords: Chronic uterine inversion, Submucosal fibroid

INTRODUCTION

Uterine inversion refers to the descent of uterine fundus through cervix so that uterus is turned inside out.[1] Non puerperal inversions present mostly as chronic cases, although Das has reported 8.6% of non-puerperal inversion as a sudden onset and at most times associated with uterine pathology like leiomyoma, leiomyosarcoma or endometrial polyp.[2] Diagnosis is made on clinical features, examination under anaesthesia and intraoperative findings. Clinically, recto abdominal method is useful; as vagina is occupied by inverted uterus and on per rectal examination uterus is not felt in position and there is dimpling of uterine fundus. Most of the cases need surgical management. Here we are presenting two back to back cases of chronic uterine inversion in post-menopausal women.

CASE REPORTS

Case 1

A case of 53-year-old woman, P1L0 in her postmenopausal status presented with complaints of mass per vagina since 6 months and white discharge per vagina since 3 months. She was a known case of type 2 diabetes mellitus since 10 years on treatment.

On general examination, patient was vitally stable with BP-120/80 mmHg, PR-86 bpm, SpO_2-98% in room air with no pallor, icterus, clubbing, cyanosis, lymphadenopathy and pedal edema. Systemic examination being normal. Pelvic examination revealed a mass of 7×5 cm protruding through the introitus in which external os could not be appreciated. Further examination revealed a complete uterine inversion secondary to fundal submucosal fibroid. Imaging including ultrasound, supported the diagnosis of chronic uterine inversion associated with a large fundal submucosal fibroid. Definitive management in the form of myomectomy followed by hysterectomy through the vaginal route was performed successfully after controlling the diabetes mellitus.

Case 2

A case of 65 years old postmenopausal woman came with complaints of mass per vagina since 4 years and bleeding per vagina since 5 days. On general examination, patient was vitally stable with BP-130/80 mmHg, PR-92 bpm,

SpO_2-99% under room air with mild pallor noted, there was no evidence of icterus, clubbing, cyanosis, lymphadenopathy, edema seen. Systemic examination appeared normal. On pelvic examination revealed a mass of 8×5 cm protruding through per vagina, which was firm in consistency and external os could not be appreciated. Clinical diagnosis was supported by ultrasonography (USG). Definitive management was done in the form of myomectomy followed by hysterectomy through the vaginal route.

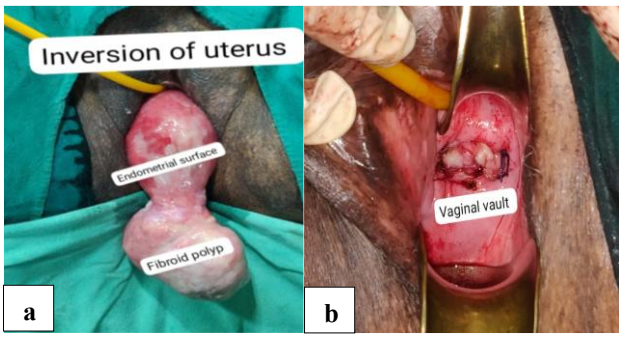

Figure 1: Case 1 (a) pre-operative, and (b) post-operative image.

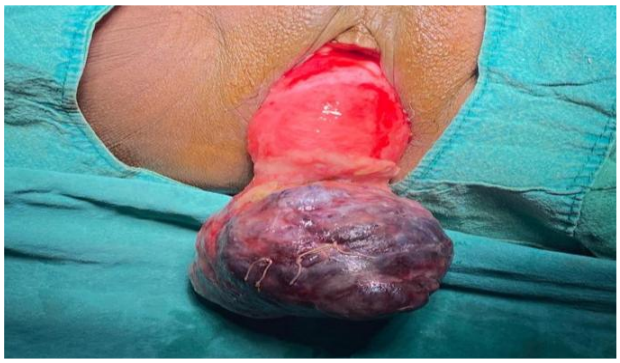

Figure 2: Case 2 pre-operative image.

DISCUSSION

Uterine inversion is the descent of the uterine fundus inside out through the cervix, either partially or fully.[3] It is grossly classified as puerperal and non-puerperal, puerperal uterine inversion being the most common.[4] Non puerperal uterine inversion is classified as subacute (48 hours post-partum – 4 weeks) and chronic uterine inversion (greater than 4 weeks). Acute uterine inversion is one of the rare and dreaded obstetric complications whereas chronic uterine inversion is rare gynaecological condition. It is seen in one sixth of all the uterine inversion cases.

The uterine inversion in the cases presented were due to submucous uterine fibroids. Other causes of chronic uterine inversion include endometrial polyp, uterine sarcoma, endometrial carcinoma and mixed mesodermal tumours. The major factors that contribute to its occurrence are tumour attachment site, thickness of the tumour pedicle, tumour size, thin uterine wall and dilatation of the cervix.

Different studies have reported different causative factors of uterine inversion. This is similar to the studies by Takano et al, who reported 92% association with tumours out of which 63/88 (71.6%) were leiomyomas and 20% are malignant tumours.[5]

Symptoms of the non-puerperal uterine inversion are vaginal bleeding, vaginal mass, as presented in the above cases. Other common presenting symptoms include lower abdominal pain and urinary disturbances. In addition, the patient may complain of pressure in the vagina or of something protruding or coming down the vagina.

In chronic cases diagnosis is difficult, most of the times it is misdiagnosed as uterine prolapse. Common complications of chronic uterine inversion are uterine necrosis, lacerations, infection, recurrence after reposition, etc. It requires high index of suspicion especially when the inversion is partial.

The diagnosis is done by: clinical examination – mass coming out per vagina with negative sound test i.e. in uterine inversion, the uterine sound cannot be passed into the uterine cavity because the fundus is inverted; USG-indentation of the fundal area and depressed longitudinal groove from the uterus to centre of the inverted uterus may be seen. USG may show 'target sign' due to fluid within the space between inverted uterus and vaginal wall; Lewin et al recommended the use of T2-weighted MRI scans to detect a U-shaped uterine cavity, thickened and inverted uterine fundus on a sagittal image and a 'Bulls eye' configuration on an axial image as indicative of signs of uterine inversion; and demonstration of endometrium on surface of mass will confirm the diagnosis, e) Biopsy of the mass has definite place if associated malignancy is suspected.[6]

Table 1: Kustner's classification of uterine inversion.

Grade/stage	Description
Stage I - incomplete	Fundus of the uterus is depressed but has not passed through the cervix. The inversion is limited to the uterine cavity.
Stage II - complete inversion	The fundus passes through the cervix but remains inside the vagina.
Stage III – total inversion	The fundus of the uterus protrudes outside the vulva.
Stage IV – total inversion with vaginal wall	Both the uterus and the vaginal walls are inverted and lie outside the vulva

Management of chronic uterine inversion depends on the fertility need, associated complication and surgeon experience. In post-menopausal women or in cases of necrotic and significantly infected uterus, hysterectomy is

the preferred management. Depending on the surgeon's experience and expected complication, a hysterectomy may be performed using an abdominal or vaginal technique.[7] In the above cases, as the patients were in post-menopausal period, hysterectomy was preferred.

In treatment the following surgical methods have been described. In Hungtington abdominal approach, the round ligament and uterus are grasped below the area of inversion and slowly pulled up repeatedly till the uterus is reinverted.[8]

In Haultain abdominal approach, vagino cervical ring is incised posteriorly and carried up the posterior wall of uterus until it can be reinverted.[9] In Kustner's vaginal approach, POD is entered vaginally. The posterior aspect of the uterus and cervix is split and uterus is gradually reinverted.[10]

In Spinelli's vaginal approach, incision is made on the anterior aspect of the cervix, bladder separated and then uterus is re-inverted.[11] In presence of myomas, vaginal myomectomy has to be done first, which makes the hysterectomy feasible and easier.[12] Manual repositioning of the uterus was described by Johnson and is possible with acute inversion.[13] Saline hydrostatic pressure positioning was also described by O'Sullivan and modified by Oguey and Ayida.[14]

CONCLUSION

Chronic uterine inversion is an uncommon gynaecologic condition in the post-menopausal women. Commonly, chronic uterine inversion is associated with uterine pathology like leiomyoma. The diagnosis is done using suspicion index and physical examination. Its treatment is surgical (abdominal or vaginal). Prognosis is good, which however depends on initial diagnosis, stage and associated pathology. Need for fertility preservation and excluding malignancy might be important in selected cases.

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