International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Sofat A et al. Int J Reprod Contracept Obstet Gynecol. 2023 Jun;12(6):1902-1904
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20231579

Case Report

Chronic non-puerperal incomplete uterine inversion

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Received: 04 April 2023
Accepted: 03 May 2023

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ABSTRACT

Chronic non-puerperal uterine inversion is an extremely rare diagnosis especially in younger women. The diagnosis commands high level of clinical suspicion supplemented with imaging. An emergency admission of a 35-year-old para 1 with submucosal fundal fibroid presenting with excessive menstrual flow with hemodynamic instability requiring multiple blood transfusions is presented. On abdominal examination slight suprapubic tenderness was made out with no palpable mass. Bimanual examination revealed a non-pediculated mass in upper vagina with a circular constriction around it. On ultrasound, cupping of fundus suggested uterine inversion. Pelvic MRI reaffirmed the findings of a highly vascularized intracavitary leiomyoma protruding through the cervix. After optimization patient underwent myomectomy and Haultain's procedure followed by total abdominal hysterectomy with bilateral salpingectomy. Post-operative period was uneventful. Inversion is generally associated with fundal fibroid polyp but can rarely follow submucosal leiomyoma. Imaging helps preoperative planning of management.

Keywords: Chronic uterine inversion, Non-puerperal uterine inversion, Haultain's procedure

INTRODUCTION

Uterine inversion is an uncommon complication of the puerperium and is rarer still in the non-puerperal period, specifically below age of 35. As amongst etiology submucous myoma is rare hence often missed. A rare possibility of a malignant tumour is always there. The commonest postulation is uterine inversion following the attempts of uterine retractions to expel the submucous myoma with fundal attachment. The present case is a rare combination of chronicity, non-puerperal, incomplete uterine inversion with a submucosal fibroid distant from fundus resulting in herniation of adnexa into the fundal indentation in a relatively young patient.

CASE REPORT

A 35-year-old female patient (para1 live1) was referred to emergency for: acute retention of urine for one day, heavy menstrual flow for the last 4-5 days with syncopal attacks and dizziness, awareness of presence of fleshy mass at introitus for 1 week, and irregular bleeding per vaginum, chronic discharge per vaginum, chronic pelvic pain for 1 year.

Patient had only received symptomatic treatment in past without through evaluation. For the present episode she received 4 units of blood transfusions.

On general physical examination only features of anaemia corresponding roughly to 6-7 gm% with mild tachycardia was present. Abdominal examination revealed slight suprapubic tenderness with no palpable mass. Per speculum examination demonstrated foul smelling, reddish, ulcerative mass protruding into the upper vagina. Cervix could not be visualised. On bimanual examination, mass could be traced in upper vagina but upper margin could not be reached and bled on touch. Higher up a constriction ring was felt around the protuberant mass but no pedicle could be appreciated. On per rectal examination

same mass was felt anteriorly with rectal mucosa being free.

Ultrasound showed cupping of fundus suggesting uterine inversion. CEMRI verified incomplete uterine inversion due to heterogeneously hyperintense submucosal rounded altered signal intensity lesion ms 5.9×5.6 cm^2 arising from anterior myometrium. The cupping fundus had dragged in the adnexa. After optimization the patient with a diagnosis of chronic non-puerperal uterine inversion secondary to submucosal leiomyoma was planned for simultaneous exploratory laparotomy and vaginal manipulation in lithotomy position under general anaesthesia.

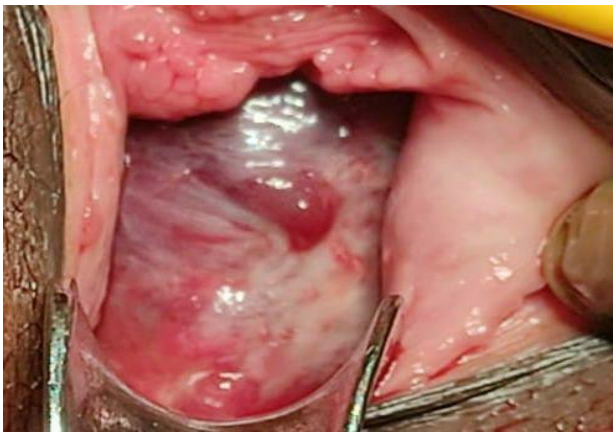

Figure 1: Inside out uterus coming through vagina with submucosal fibroid.

Figure 2: CE-MRI pelvis showing highly vascularized intracavitary leiomyoma.

Intraoperatively, medial part of round ligaments and fallopian tubes were seen embedded in the cupped fundus with a tight constricted ring around the same. Both ovaries appeared healthy. The inversion could not be rectified by pull on the adnexal organs alone. An incision was given on the fibroid from vaginal route and using myomectomy screw for traction myomectomy completed. Vertical incision was given on cervix to release the constriction ring and with simultaneous push from below and traction on medial ends of round ligaments uterine inversion was reverted. Post procedure considering extensive damage to the endometrium and with very thin myometrium left behind at the site of myomectomy and as the patient had completed her family and desired one step management, total abdominal hysterectomy with bilateral salpingectomy was performed. Thus, a submucosal leiomyoma with incomplete uterine inversion was managed with myomectomy and Haultain's followed by hysterectomy. Histopathology confirmed the benign nature of leiomyoma and postoperative period was uneventful.

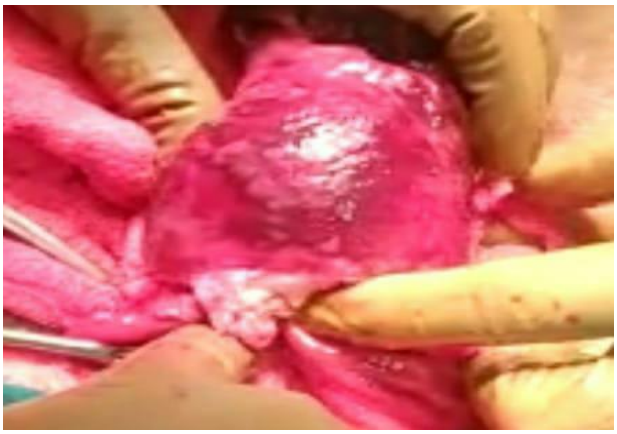

Figure 3: Inside out uterus seen intraop.

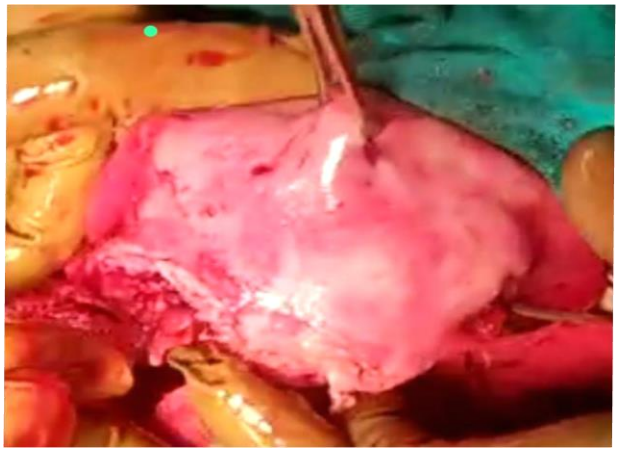

Figure 4: Corrected inversion.

DISCUSSION

Non-puerperal uterine inversion is a rare event specifically in younger age. Amongst 150 cases documented between 1887 to 2006, only four patients were less than 45 years of age.[1] Our patient was barely 35 years old. Like our case, nearly 85% of cases of non-puerperal uterine inversions occur because of benign conditions such as leiomyomas, while malignant uterine tumors like sarcomas and carcinomas account for rest 15%.[2,3]

Postulated pathophysiology for leiomyoma related uterine inversion are rapid tumor growth, thinning of pedicle, thinning of uterine wall with associated cervical

dilatation.[4,5] In the absence of any previous ultrasonography (USG) the rate of growth could not be evaluated in our patient. Our patient had no aggravating factors of increased intra-abdominal pressure like coughing, sneezing, and straining.

Diagnosis requires a high index of suspicion as the clinical features are non-specific. Irregular and heavy vaginal bleeding, abdominopelvic pain, vaginal discharge, urinary complaints are common presentations.[6,7] On examination the infected, foul smelling, or haemorrhagic mass protruding in the vagina may mimic prolapsed cervix or a malignant cervical mass. Absence of the uterine fundus or evidence of fundal dimpling during bimanual examination combined with the finding of a mass protruding from the vaginal introitus are highly suggestive of this diagnosis. Our patient had typical signs and symptoms and USG verified the diagnosis.

On ultrasound, typically in the sagittal plane, an indentation is seen at the expected location of the fundus leading to a groove representing the opposed serosal layers of the inverted uterus. In transverse plane, a 'target sign' representing central echogenic fundus surrounded by the hypoechoic rim is usually seen.[2,3] MRI T2-weighted images show distorted uterine anatomy seen as a 'V'-shaped inverted fundus in the sagittal plane. In upper axial sections, a 'bulls eye' configuration corresponds to the sonological 'target sign'. MRI is the imaging modality of choice for diagnosis of non-puerperal uterine inversion. It can delineate not only the lesion but also its relationship to the surrounding structures, invasion, extension, contrast enhancement, and lymph nodal enlargement. CT is not considered useful because of the limited soft tissue contrast.[7] Non-visualization of the uterus in its normal pelvic location combined with the oedematous endometrium and myometrium are suggestive features.

For treatment of non-puerperal uterine inversion, literature suggest multiple operative techniques. Surgical procedure depends on reproductive choices of the patient, underlying cause and whether the inversion is chronic or acute. The surgical procedures via transvaginal approach are either with posterior incision (Kustner) or anterior incision (Spinnell), while abdominal approach is Huntington or Haultain procedure. After repositioning, the uterine incision is repaired if the patient's fertility is to be preserved, or else a vaginal/abdominal hysterectomy is performed. Repositioning is usually fruitful in acute and incomplete inversions, whereas chronic and complete inversions are mostly managed with hysterectomy. In our patient though young, her desire and intraoperative findings lead to decision for complete surgery with preservation of ovaries.

CONCLUSION

Non-puerperal uterine inversion is a rare entity but a high degree of clinical suspicion and ultrasound combined with Doppler imaging help to clinch the diagnosis. Awareness of the typical radiological signs preoperatively helped in making a correct diagnosis. MRI is the modality of choice if available and not contraindicated. Operative management is ideally individualized.

ACKNOWLEDGMENT

Author are thankful the whole nursing and medical team who contributed in the efficient management of the client.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Sofat A, Dubey S, Tandon R, Sehgal A, Aggarwal P. Chronic non-puerperal incomplete uterine inversion. Int J Reprod Contracept Obstet Gynecol 2023;12:1902-4.