

(Figure 1b). Following the imaging studies, a diagnosis of cervical polyp/fibroid was made.

Laboratory investigations revealed that hematological parameters, except for anemia (Hb 7.6 g%), and serum biochemistry were within normal range. Also, the urine pregnancy test at the time of admission was negative, but quantitative serum beta-human chorionic gonadotrophin (beta hCG) was high (56.34 ml U/ml; normal range <35 ml U/ml).

Total abdominal hysterectomy with adhesionolysis was done. Per-operative findings revealed that the uterus was slightly bulky. Cervix was found ballooned up. Cut section showed blood clots and probably products of conception, which were firmly adhered to the endocervix. The hysterectomy specimen was submitted for histopathological examination. Postoperative period was uneventful, and the patient was discharged from the hospital in a stable condition.

On gross examination, specimen consisted of uterus and cervix which measured $11 \times 6 \times 5$ cm in size. Uterus appeared normal in size and shape, but endocervix was enlarged (Figure 1c). Ectocervix was hypertrophied. Horizontally cut surface of uterus revealed slit like and smooth endometrial cavity. It was 3 cm in length. Endocervical canal measured 4.5 cm in length. The cut surface was covered by organized blood clots, which were invading the wall of endocervix resulting in thinning of the wall of endocervix (Figure 1d).

Microscopic examination

Sections from uterus revealed that the myometrium was lined by normal proliferative endometrium. Islands of

endometrial tissue were embedded in the myometrium, i.e., adenomyosis was present in the uterus. Sections from endocervix revealed that the surface was covered by blood clots, enclosing well-formed chorionic villi (Figure 2a and b). The chorionic tissue was embedded in the muscles of endocervix (Figure 2c and d). The endocervical glands were proliferated and were lined by tall columnar mucous secreting epithelium. Based on histopathological findings, diagnosis of “Adenomyosis Uterus associated with Ectopic Pregnancy in the Endocervical Canal” was established.

Discussion

Endocervical canal is a very rare site for ectopic pregnancy amongst all the ectopic gestations; the reported incidence varies from 1 in 1,000 to 16,000 to all the ectopic pregnancies [7]. In the author's Padam Kumari Agarwal (PKA) experience, this is the first case seen after 40 years of histopathological reporting on approximately 25,000 hysterectomy specimens at a medical college and then in a tertiary care hospital.

Patients with cervical pregnancy classically present with painless vaginal bleeding during the first trimester of pregnancy [1]. The present case presented with painless continuous bleeding per vaginum for 20 days. On ultrasound, a hypo dense lesion with hard internal echoes within the endocervical canal was reported. The uterine cavity was empty and endometrial surface was smooth. The mass in the cervical canal was radiologically diagnosed as endocervical polyp. CT scan showed uterus of normal shape and size and a low attenuating mass lesion in cervical canal which was widened. Keeping these investigations in consideration, four differential diagnoses were made, i.e., cervical pregnancy, retained products of conception, cervical polyp, and cervical fibroid. The final diagnosis was settled on histopathological examination of the hysterectomy specimen which revealed adenomyosis in the uterus, along with involvement of the endocervix which was covered by blood clots enclosing well-formed chorionic tissue invading the wall of endocervix. The absence of evidence of pregnancy in the endometrium

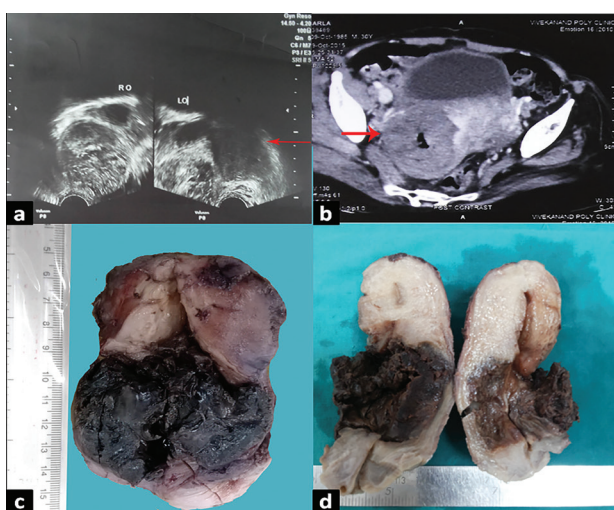


Figure 1. (a) Transvaginal ultrasound showing a heterogeneous mass lesion (arrow) compressing the endocervix, (b) CT scan of lower abdomen showing a low attenuating mass lesion (arrow) lying in the endocervical canal, (c) Gross appearance uterus is of normal size. Endocervix is enlarged and covered by blood clots above the level of external os, (d) horizontally cut specimen showing slit like endometrial cavity; endocervix eroded by blood clots from internal to external os and ectocervix is normal.

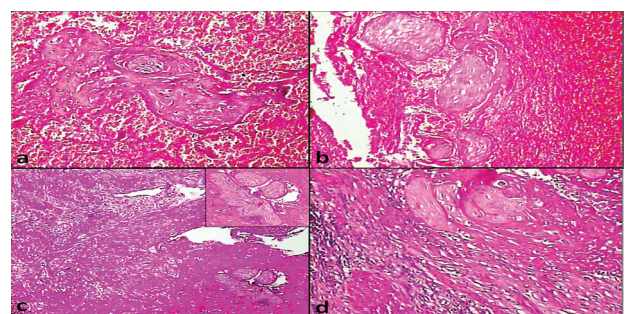


Figure 2. Microphotographs of uterus and endocervix (a&b) sections showing blood clots enclosing chorionic tissue (H: E X 40), (c) section showing wall of endocervix embedded by chorionic tissue (H: E X 40, inset X 100), (d) chorionic tissue embedded in the wall of endocervix (H: E X 40).

with normal myometrium and presence of chorionic issue within the endocervical canal favored the diagnosis of ectopic endocervical pregnancy.

In endocervical pregnancy, the implantation occurs in the endocervical canal, at or below the internal os. The erosion of the wall of endocervix by trophoblastic tissue resulting in thinning and distension of the canal had been reported earlier on radiological examination [8]. No histopathological confirmation of ectopic endocervical pregnancy has been reported in the literature to the best of the authors' knowledge.

The etiopathogenesis of ectopic pregnancy, is not well understood, some local pathology in the uterus, such as leiomyomas, adenomyosis, or previous surgical interventions such as previous cesarean sections, dilatation & curettage, and intrauterine devices [9] may be the responsible causes for ectopic pregnancy. In the present case, the patient had previous three cesarean sections. Also, she had adenomyosis which may be responsible for ectopic endocervical pregnancy as reported earlier in the literature [4]. In all, the etiology of ectopic pregnancy in the endocervical canal in the present case appears to be a consequence of previous three cesarean sections and associated adenomyosis of the uterus.

In the present case, total abdominal hysterectomy was performed as a choice of treatment which allowed studying the histopathological changes in such cases with associated pathology in the uterus. Histopathology confirmed the diagnosis of ectopic endocervical pregnancy by demonstrating the chorionic tissue embedded in the endocervical canal above the external os with adenomyosis uterus. To the best of our knowledge till date, cases of ectopic endocervical/cervical pregnancy were diagnosed by a radiologist and the patients were managed accordingly. An additional, information on thorough histopathological features in a case of ectopic endocervical pregnancy has been provided in this case. The patient is hail and hearty after surgery, after 1 year of follow up.

Conclusion

This case provides a message, that though the cervical/endocervical pregnancy is a very rare condition, this can be life threatening if not diagnosed and managed early. Such patients should always be investigated thoroughly to confirm the diagnosis for proper and timely management. Primary obstetric care providers should always keep in mind, the possibility of cervical pregnancy in females presenting with first trimester painless vaginal bleeding, especially with poor obstetric history.

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List of Abbreviations

CT Computerized tomography

Consent for publication

Informed consent was obtained from the participants.

Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.

Author details

Rimi Pandey¹, Padam Kumari Agarwal^{2*}, Nivedita Yadav¹, Vaishali Jain³

1. Senior Resident, Department of Pathology, Vivekananda Polyclinic and Institute of Medical Sciences, Lucknow 226020, India
2. Former Senior Consultant, Department of Pathology, Vivekananda Polyclinic and Institute of Medical Sciences, Lucknow 226020, India
3. Head, Department of Gynae and Obstetric, Vivekananda Polyclinic and Institute of Medical Sciences, Lucknow 226020, India

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Summary of the case

Patient (gender, age)	1	30 years, Female
Final diagnosis	2	Ectopic endocervical pregnancy
Symptoms	3	Continuous painless vaginal bleeding per vaginum
Medications /procedure	4	
Clinical procedure	5	Total abdominal hysterectomy with adhesionolysis
Specialty	6	Gynecology