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Case Report

Atypical polypoid adenomyoma: insights into recurrence, malignant transformation and management: a case report

Kitty E. Mammen[1], Asiya Sheeba[1]*, Swapna S. Pillai[1], Indira Praseeda[2], Chandni Thomas[2]

[1]Department of Obstetrics and Gynecology, Travancore Medical College Hospital, Kollam, Kerala, India
[2]Department of Pathology, Travancore Medical College Hospital, Kollam, Kerala, India

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***Correspondence:**
Dr. Asiya Sheeba,
E-mail: mail2drasiyas@gmail.com

ABSTRACT

Atypical polypoid adenomyoma (APAM) is a rare, benign mixed epithelial-mesenchymal tumor of the uterus. It is characterized by its polypoid growth pattern and atypical histological features. This study aims to consolidate current knowledge regarding its clinical presentation, diagnostic criteria, treatment options, and potential for malignancy. There is a significant rate of recurrence associated with this tumor. It consists of unusual endometrial glands interspersed with bundles of smooth muscle fibers. It is frequently diagnosed in young women and may coexist with or progress to atypical endometrial hyperplasia or endometrioid endometrial carcinoma. We report a case of a 35-year-old woman affected by APAM treated with hysteroscopic resection. Given the risk of recurrence and progression, APAM might be treated via hysterectomy in patients with no desire for pregnancy.

Keywords: Atypical polypoid adenomyoma, Recurrent endometrial polyp, Malignancy

INTRODUCTION

Atypical polypoid adenomyoma, or atypical polypoid adenomyofibroma of the uterus (APAM), is an uncommon uterine lesion, first described by Mazur in 1981.[1] APAM is an uncommon uterine neoplasm that frequently manifests as a polypoid growth protruding into the uterine cavity.

It predominantly affects women in their reproductive years. APAM manifests as a polypoid mass within the endometrial cavity and is frequently linked to abnormal uterine bleeding. This condition is especially significant because it can be mistaken for more aggressive pathologies, such as endometrial carcinoma, thereby requiring thorough clinical and histological assessment.

The pathogenesis of APAM is not fully understood, though it is thought to originate from the endometrial stroma and may respond to hormonal influences. Patients often present with symptoms like menorrhagia or intermenstrual bleeding, which lead to further evaluation through imaging and histological studies. Diagnosis is generally confirmed by combining findings from transvaginal ultrasound and endometrial biopsy, with hallmark features including atypical glandular proliferation within a fibromyxoid stromal background.

The 2020 World Health Organization (WHO) classification for mixed epithelial and mesenchymal tumors of the uterus includes several categories, such as carcinosarcoma, adenosarcoma, adenofibroma, adenomyoma, and atypical polypoid adenomyoma. Adenomyoma and atypical polypoid adenomyoma are characterized by a mix of benign epithelial and mesenchymal elements, notably featuring a substantial amount of smooth muscle tissue.[2,3]

Histologically, it features a biphasic proliferation characterized by atypical endometrial glands exhibiting squamous morular differentiation, set against a backdrop of abundant myofibromatous stroma.[4] Its histological

pattern mimics adenocarcinoma infiltrating myometrium, or malignant mixed mullerian tumor.[1]

APAM is a rare disease with <500 cases reported; therefore, it is difficult to evaluate its incidence.[5]

While the exact pathogenesis of APAM remains unclear, some cases may develop as a result of prolonged estrogenic stimulation. There have been rare cases of APAM reported in patients with Turner syndrome who received unopposed estrogen treatment.[6]

This condition is most commonly seen in nulliparous women of childbearing age, typically ranging from 21 to 73 years, with a median age of 38. It is also frequently associated with infertility.[7]

APAM exhibits high recurrence rates following conservative management.[2,8]

APAM is generally regarded as a benign tumor; it may coexist with endometrial atypical hyperplasia or endometrioid adenocarcinoma.[8] Endometrial carcinomas is found to coexist with APAM in 8.8% of cases.[9] Hysterectomy is often considered the preferred treatment approach for this lesion.[2]

CASE REPORT

A 35-year-old lady with complaints of intermenstrual bleeding and low back ache for 1 year. She gives a history of recurrent endometrial polyps.

Her menarche was at the age of 12, and menstrual periods were irregular, presenting every 25-30 days with 4-5 days of flow, with intermenstrual spotting per vaginum. Physical and bimanual pelvic examinations were normal. She has 1 previous full term normal vaginal delivery, last child birth 8 years ago. Spontaneous intracranial hypotension (SIH) was present in the last pregnancy. History of breast carcinoma to mother and ovarian carcinoma in grandmother diagnosed at age of 55 and 50 years, respectively.

Ultrasound (18/7/22) echogenic lesion with vascular pedicle 2.1×1.2 cm, splaying the endometrium- suggestive of polyp. She underwent diagnostic hysteroscopy and polypectomy in July 2022. Histopathological report (26 July 2022): consistent with endometrial polyp, glands in secretory phase. She was treated with hormonal therapy for 3 cycles. She was again presented with intermenstrual spotting per vaginum on April 2024. Ultrasound on 31 May 2024 showed uterus of size 8.8×3.7×5 cm, endometrial thickness: 9 mm, hypoechoic component 13×8 mm noted in endometrium with vascular stalk from anterior wall suggestive of endometrial polyp. She underwent diagnostic hysteroscopy and endometrial polypectomy on 01 June 2024. At hysteroscopy, a polypoid lesion of size 2×1.5 cm was detected and removed. The lesion was removed by piecemeal hysteroscopic transcervical resection. At macroscopic examination, a single polypoid fragment of grey white soft tissue 1.8×1.2×0.8 cm was encountered.

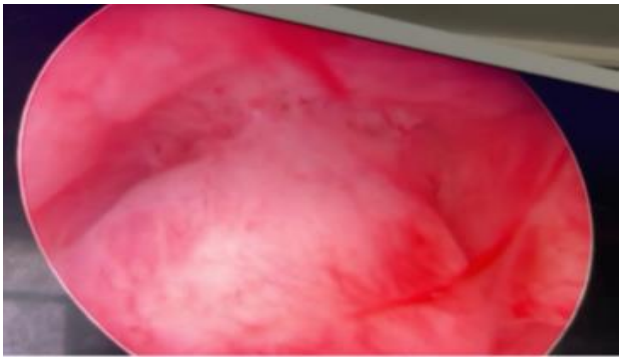

Figure 1: Atypical polypoid adenomyomas under a hysteroscope.

Histopathology shows fragments of polyp composed of endometrial glands embedded in fibrovascular and fibromuscular stroma. The glands show focal crowding with back-to-back arrangement in areas. Focal areas show stratification of lining epithelium. Few fragments of endometrium also seen with glands in secretory phase.

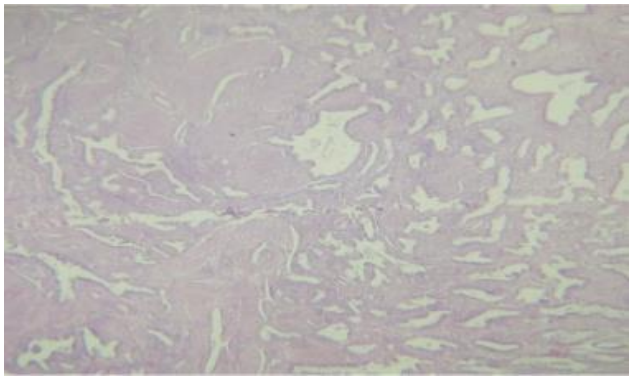

Figure 2: The microscopic findings of APAM: fragments of endometrial tissue with crowded glands embedded in fibromuscular stroma. The glands are in a back-to back arrangement focally.

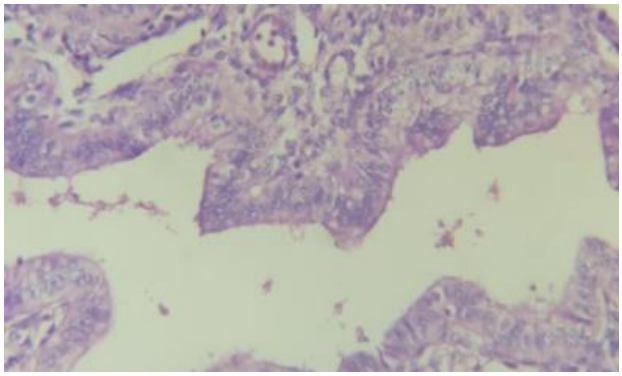

Figure 3: The microscopic findings of APAM: focally, these crowded glands show nuclear stratification.

She was advised for hysterectomy with bilateral salpingoophrectomy after discussing with a multidisciplinary team comprising of oncologists and pathologists if she is not desiring pregnancy as the chances of recurrence are higher and due to its co-existence with endometrial carcinoma. A close monitoring with 3 monthly ultrasounds and 6 monthly pippelle endometrial samplings if she desires pregnancy. She opted for follow-up with ultrasounds once every 3 months.

DISCUSSION

Atypical polyploid adenomyoma is a rare uterine tumor. It mainly affects reproductive-age women.

In our case, a 35-year-old woman presented with abnormal uterine bleeding with a history of recurrent endometrial polyps. It consists of both epithelial and mesenchymal elements and tends to recur following uterus-preserving treatments.[10]

It is usually benign, but there is potential for malignant transformation due to its atypical features. It may mimic more aggressive lesions like endometrial carcinoma. Pathogenesis is usually unknown. It is thought to arise from hormonally sensitive endometrial stroma. Patients often present with symptoms like menorrhagia or intermenstrual bleeding. Risk factors for APAM include advanced age and prolonged estrogen exposure, also associated with infertility.

Clement et al. reported three cases of APAM in women with Turner syndrome, all of whom had been on prolonged estrogen therapy. These patients presented with irregular vaginal bleeding and cervical polyps, with histopathological examination revealing APAM, suggesting that long-term estrogen stimulation may contribute to its development.[6]

Nomura et al evaluated the outcomes of long-term oncologic management with medroxyprogesterone acetate (MPA) as a fertility-sparing approach in APAM cases.[11]

Histopathologically, it is revealed as atypical glandular structures within a fibromixoid stroma, thus distinguishing from other endometrial pathologies. Immunohistochemical studies reveal expression of estrogen and progesterone receptors, thus its hormone-responsive nature.

Conservative management has been associated with recurrence or residual primary lesions in up to 30.1% of cases.[8] Endometrial carcinoma is subsequently identified in 8.8% of APAM patients after curettage or polypectomy.[8]

The association between APA and endometrial cancer was observed in 16% of cases, with 12% being diagnosed concurrently and 14% identified during follow-up. Similarly, endometrial hyperplasia was associated in 15% of cases, with 10% diagnosed at the time of APAM detection and 11% during follow-up. The time-to-event cumulative incidence rates were notably high, with endometrial cancer reaching 59.91% and hyperplasia 27.27% after 14 years of follow-up, exceeding the prevalence reported by Heatley.[12]

The risk of cancer development during follow-up was notably lower in patients treated with hysteroscopy, with a cumulative diagnosis rate of 10.56% at 5 years compared to 35.5% in those managed with blind curettage and polypectomy. Furthermore, the review revealed that post-surgical medical therapy with medroxyprogesterone acetate did not effectively reduce APAM recurrence.[12]

Pregnancy was observed in 79% of cases in which the desire for pregnancy was expressed, highlighting the potential for fertility preservation in these cases.[12]

Due to the rarity of APAM, there have been no prospective trials conducted, leaving the management of patients without a standardized protocol. Consequently, there remains a lack of consensus on the most effective treatment and appropriate follow-up for APAM.[13]

Management of atypical polypoid adenomyoma involves a complex and multilayered decision-making process. It is taken based on the patient's age, parity, and desire for future fertility.

If the patient's desires fertility, conservative management is considered, that is, regular surveillance and hormonal therapy. Opting for conservative management with operative hysteroscopy is often regarded as the most suitable option. This not only reduces the likelihood of recurrence but also provides a more accurate assessment for concurrent carcinoma or hyperplasia and allows the possibility of future fertility.[12]

For patients with extensive or deeply infiltrating tumors, laparotomy with tumor resection may be a viable fertility-preserving option in the management of APAM. Furthermore, the post-surgical use of the levonorgestrel-releasing intrauterine system (LNG-IUS) can play a dual role: preventing intrauterine adhesions and promoting tumor regression.[14]

Since APAM predominantly affects premenopausal women, fertility-sparing treatment approaches are important. Various conservative management strategies include progestin-based hormonal therapy, hysteroscopic transcervical resection, dilatation and curettage. Hysteroscopic transcervical resection (TCR) has shown a significantly higher initial response rate compared to other conservative approaches in the management of APAM. However, despite its benefits, TCR is associated with a recurrence rate of 29.8% and a progression rate of 10.8%.[13]

In this case, the patient desires no future pregnancy; hysterectomy with bilateral salpingo oophrectomy was

recommended. It eliminates the risk of recurrence and potential progression to malignancy. APAM is often associated with estrogen-dependent conditions, such as atypical endometrial hyperplasia or early-stage endometrial carcinoma. Retaining ovaries may allow continued estrogen production, potentially stimulating residual endometrial tissue or foci of APAM, especially in premenopausal women.[15]

Recurrence rates with conservative management was found to be 30-40%.[16]

Success rates of surveillance protocols was 85-90% detection rate for recurrence with combined ultrasound and sampling approach.[4]

The conservative management protocol offered if the patient is desiring pregnancy, a 3-monthly ultrasound and 6-monthly Pipelle sampling, aligns with current best practice guidelines.

Follow up to ensure long-term effectiveness after hysteroscopic transcervical resection, a follow-up schedule is recommended, including dilatation and curettage or hysteroscopic biopsy and transvaginal ultrasound every three months for two years, then every 4–6 months for three years, and annually thereafter.[13] Follow-up with imaging (transvaginal ultrasound) every 3 months and endometrial sampling with Pipelle biopsy every 6 months to monitor for recurrence/progression was chosen by this patient. It may not be feasible long-term. Definitive surgical interventions are thus preferred.

Bakalianou et al presented a case of a 36-year-old patient with neoplastic foci identified within an APAM specimen, which aligns with similar findings reported by Mittal et al, Sonoyama et al, and Nejković et al.[17-20] These cases emphasize the potential of APAM to harbor or progress to endometrial neoplasia. Longitudinal analyses indicate a cumulative risk of diagnosing endometrial neoplasia of 59.91% at 14 years of follow-up. Importantly, the risk of cancer development during follow-up is significantly lower ($p<0.05$) in patients who underwent primary hysteroscopic surgery compared to those treated with dilation and curettage and polypectomy. These data underscore the importance of selecting optimal surgical approaches and highlight the necessity of long-term follow-up.

CONCLUSION

Despite its rarity, APAM poses significant clinical challenges due to its potential for recurrence, malignant transformation, and the absence of standardized treatment protocols. Atypical polypoid adenomyoma is rare but an important differential diagnosis for endometrial polyp, especially in recurrent cases. This case highlights the complexity of managing atypical polypoid adenomyoma, balancing risks with fertility preservation. Tailored management strategies and structured follow-up are necessary, according to the patient's clinical presentation and preferences. Current treatment approaches must balance oncological safety with the preservation of fertility. Hysterectomy is the definitive treatment; close follow-up is an option for selected patients with reproductive desire. Follow-up with ultrasound and pipelle endometrial sampling may be effective. Continued research in the pathophysiology of atypical polypoid adenomyoma will help us understand future management protocols. This case is a valuable contribution to the literature on atypical polypoid adenomyoma and shows the importance of individualized patient care. Future research should focus on elucidating the molecular mechanisms driving APAM pathogenesis to inform targeted therapies and improve patient outcomes.

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REFERENCES

1. Mazur MT. Atypical polypoid adenomyomas of the endometrium. Am J Surg Pathol. 1981;5(5):473-82.
2. McCluggage WG. A practical approach to the diagnosis of mixed epithelial and mesenchymal tumours of the uterus. Modern Pathol. 2016;29:S78-91.
3. Kim KR, Lax SF, Lazar AJ, Longacre TA, Malpica A, Matias-Guiu X, et al. Tumours of the uterine corpus. In WHO Classification of Tumours Editorial Board. WHO Classification of Tumours. Female Genital Tumours. 5th Edition. IARC: Lyon, France. 2020;303-5.
4. Jiang QY, Wang L, Wu RJ. A multiple perspectives on atypical polyp oid adenomyoma of uterus. Gynecol Endocrinol. 2013;29(7):623-5.
5. Butureanu T, Haliciu AM, Apetrei AM, Pavaleanu I, Socolov RV, Balan RA. Prolapsed Atypical Polypoid Adenomyoma—A Case Report and Literature Review. Life. 2023;13(12):2352.
6. Clement PB, Young RH. Atypical polypoid adenomyoma of the uterus associated with Turner's syndrome. A report of three cases, including a review of "estrogen associated" endometrial neoplasms and neoplasms associated with Turner's syndrome. Int J Gynecol Pathol. 1987;6:104-13.
7. Javed L, Ashraf N, Sabqat M, Zareen A. Atypical polypoid adenomyoma (APAM). J Coll Physicians Surg Pak. 2021;30(6):719-21.
8. Heatley MK. Atypical polypoid adenomyoma: a systematic review of the English literature. Histopathology. 2006;48(5):609-10.
9. Zhang HK, Chen WD. Atypical polypoid adenomyomas progressed to endometrial endometrioid adenocarcinomas. Arch Gynecol Obstet. 2012;286:707-10.
10. Nemejcová K, Kenny SL, Laco J, Škapa P, Stanek L, Zikán M, et al. Atypical polypoid adenomyoma of the

uterus: an immunohistochemical and molecular study of 21 cases. Am J Surg Pathol. 2015;39(8):1148-55.
11. Nomura H, Sugiyama Y, Tanigawa T, Matoda M, Kanao H, Kondo E, et al. Long-term outcomes of fertility-sparing treatment of atypical polypoid adenomyoma with medroxyprogesterone acetate. Arch Gynecol Obstet. 2016;293:177-81.
12. Biasioli A, Londero AP, Orsaria M, Scrimin F, Mangino FP, Bertozzi S, et al. Atypical polypoid adenomyoma follow-up and management: Systematic review of case reports and series and meta-analysis. Medicine. 2020;99(26):e20491.
13. Raffone A, Travaglino A, Saccone G, Alviggi C, Mascolo M, De Placido G, et al. Management of women with atypical polypoid adenomyoma of the uterus: a quantitative systematic review. Acta Obstetricia et Gynecologica Scandinavica. 2019;98(7):842-55.
14. Narumi R, Takei Y, Morisawa H, Taneichi A, Matsubara S, Fujiwara H. Successful laparotomy tumor resection and levonorgestrel-releasing intrauterine system for atypical polypoid adenomyoma. J Obstet Gynaecol Res. 2019;45(1):230-4.
15. Zhang Q, Qi G, Kanis MJ, Dong R, Cui B, Yang X, et al. Comparison among fertility-sparing therapies for well differentiated early-stage endometrial carcinoma and complex atypical hyperplasia. Oncotarget. 2017;8(34):57642.
16. Matsumoto T, Hiura M, Baba T, Ishiko O, Shiozawa T, Yaegashi N, et al. Clinical management of atypical polypoid adenomyoma of the uterus. A clinicopathological review of 29 cases. Gynecol Oncol. 2013;129(1):54-7.
17. Bakalianou K, Salakos N, Iavazzo C, Paltoglou G, Papadias K, Kondi-Pafiti A. A case of endometrial carcinoma arising in a 36-year-old woman with uterine atypical polypoid adenomyoma (APA). Eur J Gynaecol Oncol. 2008;29(3):298.
18. Mittal KR, Peng XC, Wallach RC, Demopoulos RI. Coexistent atypical polypoid adenomyoma and endometrial adenocarcinoma. Human Pathol. 1995;26(5):574-6.
19. Sonoyama A, Kanda M, Ojima Y, Kizaki T, Ohara N. Coexistence of endometrioid adenocarcinoma in atypical polypoid adenomyoma. Kobe J Med Sci. 2014;60(3):E74-7.
20. Nejkovic L, Pazin V, Filimonovic D. Atypical polypoid adenomyoma mixed with endometrioid carcinoma: a case report. Eur J Gynaecol Oncol. 2013;34(1):101-3.

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