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Benign Serous Cystadenoma Arising in a Supernumerary Ovary: A Rare Case Report and Review of the Literature

Soukaina Laaraj[1*]

[1]Gynecology and Obstetrics Department, Laayoune Regional Hospital, Morocco

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***Corresponding author:** Soukaina Laaraj
Gynecology and Obstetrics Department, Laayoune Regional Hospital, Morocco

Abstract **Case Report**

Supernumerary ovaries are exceptionally rare congenital anomalies defined by the presence of functional ovarian tissue entirely separate from the normal ovaries. Although usually asymptomatic, they may give rise to cysts, endometriosis, or neoplasms, with tumors arising from supernumerary ovaries reported only in a limited number of cases. We present the case of a 49-year-old woman who presented with right-sided pelvic pain and was found to have two contiguous cystic masses in the right latero-uterine region, distinct from the eutopic ovaries, which appeared normal on imaging. MRI suggested benign multiloculated cystic formations, but the markedly elevated CA-125 level [13 469 U/mL] raised suspicion for malignancy. Exploratory laparotomy revealed two cystic formations connected to the uterus by a vascularized cord, consistent with a supernumerary ovary. Histopathology confirmed a benign serous cystadenoma, and peritoneal cytology and biopsies were negative. This case illustrates the diagnostic challenges posed by ectopic ovarian tissue, particularly when tumor markers are misleadingly elevated and imaging cannot establish the origin of the mass. Awareness of this rare anomaly is essential to avoid misdiagnosis and to guide appropriate surgical management.

Keywords: Supernumerary ovary, Serous cystadenoma, Ectopic ovarian tissue, CA-125, Pelvic mass, Congenital anomaly.

INTRODUCTION

A supernumerary ovary represents one of the rarest developmental anomalies of the female genital system. It is defined as an additional ovarian structure, completely separate from and independent of the normally located ovaries, and containing functional ovarian tissue such as primordial follicles. This anomaly is thought to result from abnormal migration or fragmentation of the gonadal ridge during embryogenesis, leading to the ectopic implantation of ovarian tissue.

Supernumerary ovaries have been reported in various locations within the pelvic and abdominal cavities, including attachment to the uterus, urinary bladder, pelvic wall, retroperitoneum, mesentery, omentum, and even the inguinal region. Because of their atypical location and often small size, they are rarely identified preoperatively and are usually discovered incidentally during surgery, imaging, or autopsy.

Although most supernumerary ovaries are asymptomatic, they may become clinically significant when they give rise to functional cysts, neoplasms, or endometriotic lesions. Tumors or endometriosis originating in a supernumerary ovary are exceedingly uncommon; only a handful of such cases fewer than twenty have been reported in the English literature to date. These rare presentations are of particular clinical interest because they can mimic other pelvic pathologies and pose diagnostic as well as therapeutic challenges.

CASE REPORT

In this report, we present an exceptionally rare case of a benign serous cystadenoma arising in a supernumerary ovary located in the right latero-uterine region. This unusual presentation illustrates the diverse pathological potential of ectopic ovarian tissue and underscores the diagnostic challenges it poses, particularly due to its atypical location. We discuss the embryological background, clinical presentation, imaging features, and histopathological findings of this anomaly. Particular emphasis is placed on differentiating lesions originating from a supernumerary ovary from other adnexal or paraovarian cystic masses, drawing on previously reported cases and our own observation.

We report the case of a 49-year-old, nulligravid woman with no significant medical history, who presented with right-sided pelvic pain lasting one month. Pelvic ultrasound revealed a right latero-uterine mass, further evaluated by pelvic MRI, which demonstrated two contiguous cystic formations located above and lateral to the right side of the uterus. These masses had thick, septated walls, measuring 110 × 79 × 69 mm and 72 × 58 mm, respectively. Both ovaries appeared normal in size with preserved follicular architecture, and a small amount of pelvic fluid was noted. Serum CA-125 was markedly elevated at 13 469 U/mL.

Given the clinical and biochemical suspicion of malignancy, the patient underwent an exploratory laparotomy with right salpingo-oophorectomy, peritoneal cytology, and peritoneal biopsies. Intraoperatively, the uterus was normal in size, and both ovaries and fallopian tubes appeared unremarkable. Two contiguous cystic formations were observed above the uterus, connected to it by a red cord. The tumor was ligated and transected, and all tissues were sent for histopathological analysis.

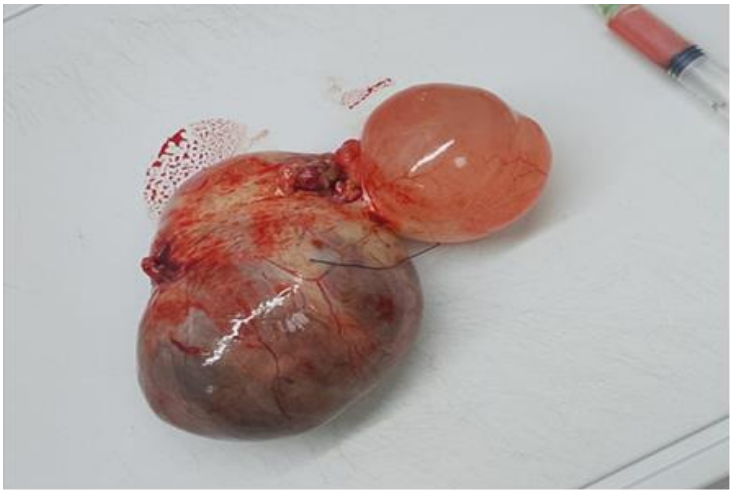

Figure 1: Appearance of two contiguous cysts

Histopathology confirmed a benign ovarian serous cystadenoma with complete excision. The fallopian tube was congested but free of malignancy, and both peritoneal cytology and biopsies were negative.

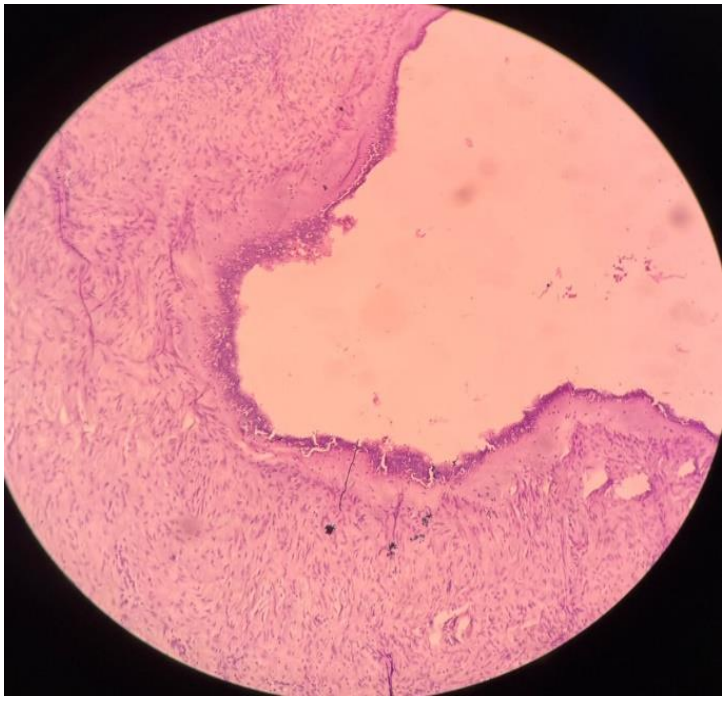

Figure 2: Histological appearance of the serous cystadenoma arising from the supernumerary ovary

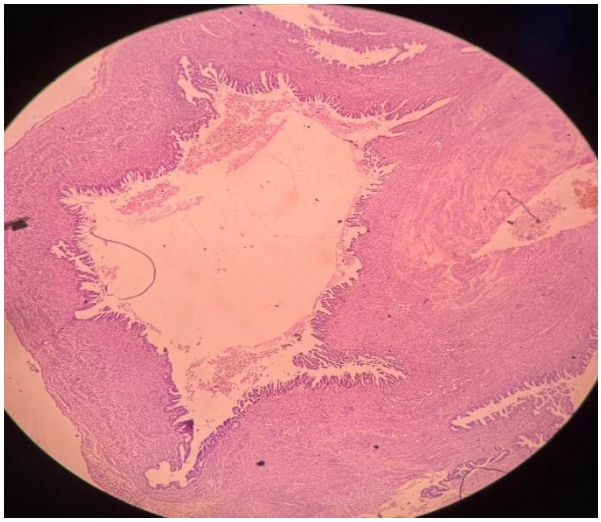

Figure 3: Histological appearance of the ectopic fallopian tube

DISCUSSION

Supernumerary ovaries constitute one of the rarest congenital anomalies of the female reproductive system [1]. Defined as ovarian tissue entirely separate from the eutopic ovaries and supplied by distinct vascular structures, they differ from accessory ovaries, which remain connected to the native ovary [1,2]. The true incidence of this anomaly is difficult to determine, largely because most supernumerary ovaries remain asymptomatic and are discovered incidentally during surgery, imaging, or autopsy [2]. The embryological basis is thought to involve abnormal migration or fragmentation of the gonadal ridge during early embryogenesis, resulting in ectopic implantation of primordial germ cells in various peritoneal or retroperitoneal sites [5,10].

The heterogeneity of anatomical localizations reported in the literature—pelvic sidewall, uterus, rectosigmoid, omentum, mesentery, retroperitoneum, inguinal canal—reflects the complexity of embryologic processes and the potential for germinal tissue to reside in unexpected regions [2,4]. In the present case, the supernumerary ovary was identified in a right latero-uterine position, connected to the uterus by a vascularized cord. This configuration is consistent with previously described Müllerian duct–derived or gonadal ridge–derived remnants, supporting the embryological origin of the anomaly [1,4].

Clinically, the presence of a supernumerary ovary can remain silent unless it becomes hormonally active or develops pathology, including functional cysts, endometriosis, or neoplasms [2,6]. Neoplasms arising in supernumerary ovaries are exceedingly rare, with fewer than twenty cases reported in the English literature [3]. Among these, serous cystadenomas are exceptionally uncommon, most cases involving endometriotic lesions or malignant epithelial tumors [2,3]. Our case thus contributes a valuable documented instance of a benign serous cystadenoma arising from a supernumerary ovary, illustrating that ectopic ovarian tissue retains the full spectrum of pathological potential observed in orthotopic ovaries [3,6].

Radiologically, diagnosing a mass originating from a supernumerary ovary remains a considerable challenge. Imaging with transvaginal ultrasound and MRI can accurately characterize cystic structures but cannot reliably distinguish their origin when located away from the usual adnexal region [7]. In the present case, MRI revealed two adjacent cystic formations with septated walls and benign morphological criteria, but their exact relationship to the ovaries was indeterminate. The normal appearance of both eutopic ovaries further contributed to diagnostic uncertainty. Similar limitations have been described in previous case reports, in which imaging failed to predict ectopic ovarian origin, highlighting the need for heightened clinical suspicion when a pelvic mass is clearly separate from normal adnexal structures [2,7].

An additional diagnostic challenge in this case was the extraordinarily elevated CA-125 level. While CA-125 is widely used as a biomarker for ovarian malignancy, its interpretation must be approached cautiously. Elevated levels may occur in benign gynecologic conditions—most notably endometriosis, pelvic inflammation, or large benign cystadenomas associated with peritoneal irritation [8]. Extreme elevations exceeding 10 000 U/mL are rare but documented in certain benign conditions [8,9]. In our patient, the markedly elevated CA-125, combined with the radiologic appearance and the atypical location of the mass, raised significant concern for malignancy and justified surgical exploration [8,9].

Intraoperative findings were crucial for diagnosis. The identification of two cystic masses attached to the uterus by a red, vascularized cord and completely separate from both ovaries strongly suggested the presence of a supernumerary ovary [1,2].

Histopathologic examination confirmed the diagnosis of a benign serous cystadenoma, demonstrating typical features of a unilocular or multilocular cyst lined by ciliated serous-type epithelium [3,6]. Importantly, peritoneal cytology and biopsies were negative, definitively excluding malignancy despite the misleading biochemical and imaging cues.

This case underscores several important clinical implications. First, the possibility of a supernumerary ovary, although rare, should be considered in the differential diagnosis of adnexal or parauterine cystic masses, particularly when both ovaries appear normal [1,2]. Increased awareness of this anomaly may prevent misdiagnosis and unnecessary extensive surgical procedures. Second, tumor markers such as CA-125 should not be used in isolation to infer malignancy, especially in the context of large benign masses or peritoneal irritation [8,9]. Third, complete surgical excision remains the gold standard for both diagnosis and treatment of lesions arising from supernumerary ovaries, given the potential—though low—risk of malignant transformation [3,6].

More broadly, documenting such rare cases enriches the understanding of ectopic ovarian tissue behavior and emphasizes the importance of multidisciplinary evaluation involving gynecologists, radiologists, and pathologists. Continued reporting will contribute to refining diagnostic criteria and improving management strategies for these uncommon but clinically relevant anomalies.

CONCLUSION

Supernumerary ovaries are extremely rare developmental anomalies that may remain asymptomatic unless they develop pathological lesions. This case highlights the diagnostic difficulties associated with an atypically located adnexal mass, particularly when conventional imaging cannot determine its origin and when tumor markers are misleadingly elevated. The occurrence of a benign serous cystadenoma in a supernumerary ovary, although exceptional, underscores the full pathological potential of ectopic ovarian tissue. Accurate diagnosis relies on careful intraoperative assessment and histopathologic confirmation. Increased awareness of this entity is essential to avoid diagnostic pitfalls and ensure appropriate therapeutic management.

REFERENCES

1. Wharton LR. Two cases of supernumerary ovary and one of accessory ovary. Am J Obstet Gynecol. 1959 ;78[5]:1101-1107.
2. Lachman MF, Berman MM. Supernumerary ovary: report of a case and review of the literature. Arch Pathol Lab Med. 1991 ;115[2]:233-235.
3. Kokcu A, Tosun M, Cetinkaya MB, Alper T, Kandemir B. Serous cystadenoma arising from a supernumerary ovary. J Obstet Gynaecol Res. 2009 ;35[6]:1144-1146.
4. Redman CWE, Williams J. Supernumerary ovary. J Obstet Gynaecol Br Commonw. 1965 ;72:992-996.
5. Kurman RJ, Ellenson LH, Ronnett BM. Blaustein's Pathology of the Female Genital Tract. 7th ed. New York : Springer ; 2019.
6. Young RH, Clement PB, Scully RE. Tumors of the ovary, maldeveloped gonads, fallopian tube, and broad ligament. Armed Forces Institute of Pathology; 1994.
7. Timmerman D, Valentin L, Bourne T, *et al.*, Terms, definitions and measurements to describe sonographic features of adnexal tumors. Ultrasound Obstet Gynecol. 2000;16[5]:500-505.
8. Jacobs I, Bast RC. The CA 125 tumour-associated antigen: a review of the literature. Hum Reprod. 1989 ;4[1]:1-12.
9. Moore RG, Miller MC, Disilvestro P, *et al.*, Evaluation of the diagnostic accuracy of the risk of ovarian malignancy algorithm. Obstet Gynecol. 2011 ;118[2 Pt 1]:280-288.
10. Benirschke K, Kaufmann P, Baergen RN. Pathology of the Human Placenta. 6th ed. Springer ; 2012. *[Pour embryologie gonadique et migration des crêtes génitales]*