Ovarian Lipoma: A Case Report.

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Abstract

Tumor of lipomatous origin in the ovary is exceedingly rare. We report a case of incidental lipoma in the right ovary in a 41-year-old female with a contralateral borderline serous tumor. It is important to identify such isolated incidental lipoma to differentiate it from other liposarcoma and teratomatous elements.

Introduction:

The occurrence of pure lipoma in the internal female genital tract is extremely rare (1). Some cases of fatty tumors of the uterus, ovaries, and fallopian tubes have been reported in the literature, primarily teratomatous in origin (2). Due to the rarity of the cases, the frequency and etiology remain unknown (3). Based on literature search, we found only three cases of ovarian lipoma reported. We report a case of ovarian lipoma found in the right ovary in a 41-year-old female with a borderline serous tumor of the left ovary. We are presenting this case because of the rarity.

Case Report:

A 40-year-old female, P1, L1 without comorbidity, was presented with fullness of the abdomen for three months and nonspecific pain abdomen on and off for one month. Computed tomography scan showed a large cystic lesion 9 cm x 8.3 cm with peripheral enhancing nodule soft tissue component in the left adnexa. The serum cancer antigen-125 (CA-125) was 389.8 μ/ml with a suspicious diagnosis of ovarian malignancy. The patient underwent laparotomy with left ovariotomy and was sent for frozen biopsy, which revealed borderline ovarian malignancy, and thus surgery was extended to total abdominal hysterectomy with bilateral salphingo-opophorectomy with bilateral pelvic and paraaortic lymph node dissection with total omentectomy and multiple peritoneal sampling. The diagnosis of a borderline serous tumor of the left ovary was established after the evaluation of the surgical specimen in the Pathology department. On gross examination, a small gray yellow soft mass on the right ovary was seen. The lesion was well-circumscribed and measured 1 cm x 0.7 cm x 0.6 cm. The outer surface was smooth, intact and the cut surface was solid, yellow, and homogeneous. [Figure-1] Areas of hemorrhage, necrosis were not appreciated. The microscopic picture showed the presence of a well-circumscribed lesion consisting of matured adipocytes along with a few interlacing fibrous bands in between and thin-walled capillary-sized blood vessels. The final diagnosis of ovarian lipoma of the right ovary was made. Features of malignancy, borderline tumor or teratoma in the right ovary were not seen. [Figure-2A and 2B]

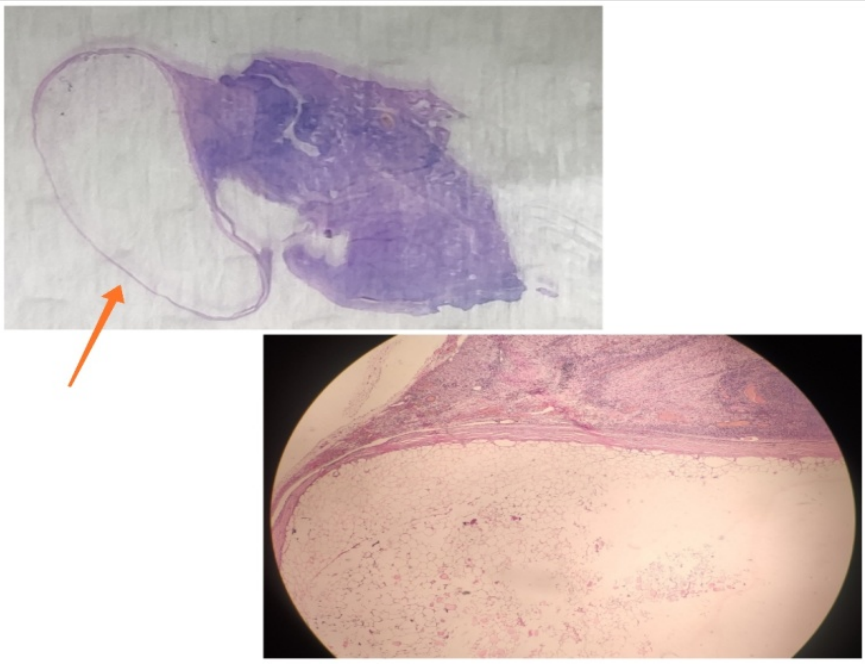

Figure-1: Gross picture of lipoma on the surface of the right ovary (Arrow)

Figure-2A: Microscopic photomicrograph of lipoma attached to the surface of the right ovary (Arrow)

Figure-2B: Photomicrograph of H&E stained section of the lipoma of the right ovary (Closer view)

Discussion:

Although the ovary is a common site for benign and malignant lesions, tumors of lipomatous origin are rare. (4) Usually, lipomas of other sites are found in the 4th and 5th decades of life, where etiology is still unclear. These tumors are usually asymptomatic, unilateral, growing more than 10 cm (2, 3). Some constitutional factors and obesity may be associated with the growth of the tumor (3).

The origin of this tumor in the internal genital tract of a female is rare and unclear (4). The adipose tissue in the ovary is not native, so different mechanisms have been suggested for the development of ovarian lipoma in literature. (2, 5) Embryonic misplacement of the fat cells and metaplasia of ovarian stromal cells into the fat cells are some of the important proposed mechanisms. (3). Most of the ovarian lipomas are part of mature teratoma, and treatment of which may vary from just the lipoma of the ovary. Teratomas are the most common fat-containing ovarian neoplasm that contains tissue from all three germinal layers (ectoderm, mesoderm, and endoderm) that include adipose tissues and other components like bone cartilage, skin adnexae, and others (6). However, our patient like in the case reported by Zwiesler et al had a well-circumscribed lesion of mature adipocytes on the right ovary, and tissues from other germ layers were not present even in the extensive sampling.(7) Hence, the diagnosis of a lipoma was considered over teratoma.

Malignant mixed Mullerian tumors (carcinosarcoma) can also have adipose tissues as its component but are malignant. Carcinosarcoma is a biphasic tumor with malignant carcinomatous components like endometrial carcinoma and sarcomatous components like liposarcoma and others (8). The absence of nuclear atypia, lipoblast, and atypical mitoses in the microscopic examination helps to exclude liposarcoma (3, 4). In our case, the tumor did not have any malignant microscopic features.

The microscopic appearance of ovarian lipoma is similar to the other lipomatous tumor arising in other parts of the body (3). Lipoma of the other sites, such as the pelvis, also has to be ruled out with the help of clinicoradiological correlation (5). The lipoma in our case was located on the right ovary.

It is also important to distinguish lipoma of the ovary from adipocytic infiltration from the stromal tissues of the ovaries. In the study done by Honore et al. (1979) in 8 cases of the adipocyte infiltration of the ovarian tumor, they were exclusively unilateral, non- capsulated, and were made of closely packed adipose cells (9). We differentiate our case to pure lipoma because of the pure encapsulation and lack of connection with the ovarian stroma.

Conclusion:

The exact mechanism of the lipoma of the ovary is still not known and is a subject to study. The lipoma of the ovary is rare and can mimic teratoma or other adipocytic lesions like liposarcoma. As management and prognosis of benign and malignant adipocytic tumors can be different, it is important to differentiate these lesions. Hence, reporting of adipocytic tumors including ovarian lipoma has clinical significance.

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Conflicts of interest statement:

Authors hereby declare that there is no potential conflict of interest.

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None

Author's contribution:

BG, VA and SK collected the required case information, images, slides, and reports and contributed to writing manuscripts. BG and HPD examined and interpreted the Pathology. AS was involved in the description of the case, counseling, and treatment of the patient. VA, SK, BG, AS, and HPD reviewed the literature and contributed to writing and editing the manuscript. All authors read and approved the final manuscript.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Figures:

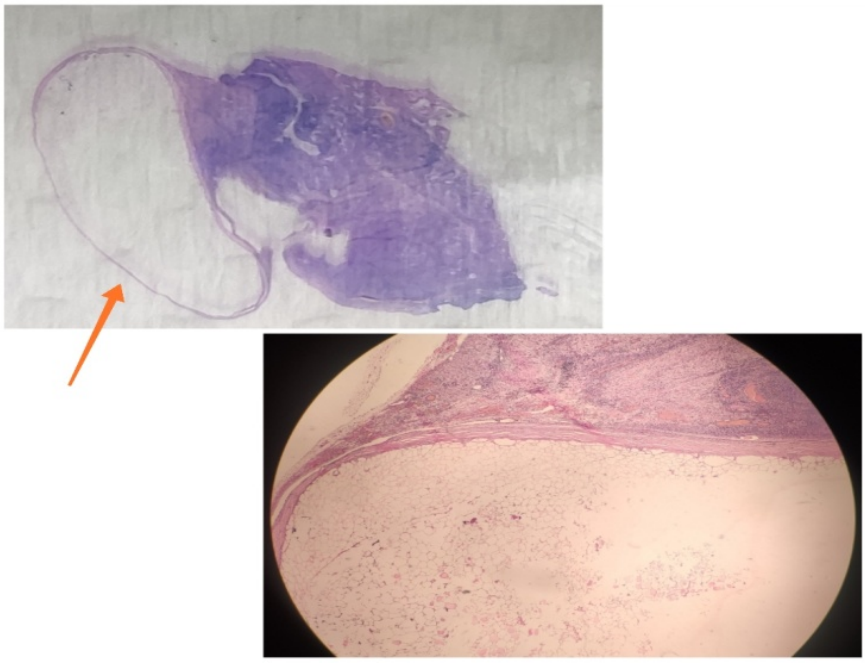

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Figure-2A

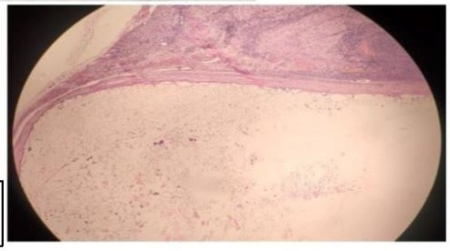

Figure-2B