

## Lipoma of the ovary: a case report and review of the literature

### Overde lipom: olgu sunumu ve literatürün gözden geçirilmesi

Akbulut M<sup>1</sup>, Zekioglu O<sup>3</sup>, Terek M<sup>2</sup>, Özdemir N<sup>3</sup>

<sup>1</sup>Pamukkale Üniversitesi Tıp Fakültesi Patoloji AD

<sup>2</sup>Ege Üniversitesi Kadın Hastalıkları ve Doğum ABD

<sup>3</sup>Ege Üniversitesi Patoloji ABD

#### Summary

Lipomatous ovarian tumors are extremely rare with only a few cases reported in the literature (1-5). Ovary is an unusual location for lipoma and its histogenesis has still been controversial. Almost all reports included some statement regarding the rarity of ovarian lipomas. In the majority these lipomatous tumors are components of benign ovarian teratomas (4). A case of lipoma of the ovary is described and the literature on lipoma of the ovary is briefly reviewed.

**Key words:** *Lipoma, ovary, histogenesis*

#### Özet

*Lipom, tüm vücutta oldukça sık görülen bir tümördür ancak overde görülme insidansı oldukça nadirdir. İngilizce literatürde az sayıda olgu sunumu tarzında yayınlar mevcuttur. Bu yayında 47 yaşında bir kadında servikal intraepitelyal lezyon (CIN I) nedeniyle yapılan abdominal histerektomi esnasında rastlantısal olarak saptanmış ovaryan lipom olgusu sunulmuştur.*

**Anahtar kelimeler:** *Lipom, over, histogenez*

#### Introduction

Lipoma is a very common benign tumor, occurring throughout the whole body; however its incidence in the ovary is extremely rare. There are only a few reports in the English literature. We report a case of ovarian lipoma that was found incidentally during abdominal hysterectomy for cervical intraepithelial neoplasia (CIN I) in a 47-year-old woman.

#### Case Report

A 47-year-old multiparous woman was admitted to the Department of Obstetrics&Gynecology of Ege University, for CIN I that was detected during routine cervical smears. Gynecologic examination was normal. The past medical history was unremarkable. At laparotomy a yellowish and well-circumscribed soft mass was found attached to the cortex of the right ovary. The left tuba-ovary was normal and there were no adhesions of omentum to the ovaries at surgery.

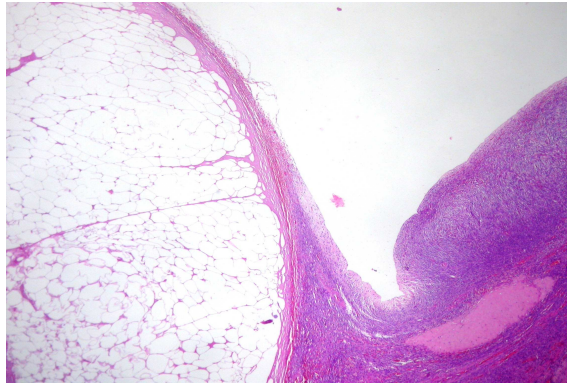
Total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed and postoperative recovery of the patient was uneventful. The uterus with the attached cervix measured 10x6x3,5 cm.

The specimen demonstrated an encapsulated, soft, nodular mass measuring up to 0,6 cm in greatest dimension with a smooth and intact outer surface and it was attached to the cortical surface of the right ovary measuring 3,2x2,5x1,6 cm. The cut surface revealed yellowish fatty and homogeneously solid appearance. No haemorrhage or necrosis was observed. The specimen was fixed in 10 % neutral formalin. The paraffin-embedded tissue sections were stained with haematoxylin and eosin.

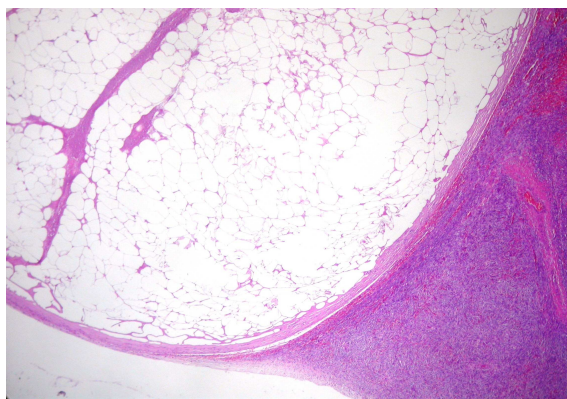
The tumor was composed of entirely mature adipocytes with uniform fat spaces and minor vascular component (Fig 1-2). There was no evidence of malignant change and the diagnosis was lipoma of the ovary.

Yazışma adresi: Metin AKBULUT, Pamukkale Üniversitesi Tıp Fakültesi Patoloji Anabilim Dalı, DENİZLİ

Makalenin geliş tarihi : 28.06.2006 ; kabul tarihi : 13.11.2006



**Fig 1.** Lipoma attached to the cortex of the ovary (H&E, X4.).



**Fig 2.** Ovarian lipoma showing mature adipose tissue (H&E, X10).

## Discussion

Although most lipomas occurring in the female genital tract originate and develop in the vulva or myometrium as a component of a leiomyoma. Lipomatous ovarian tumors are exceedingly rare. They include pure lipomas, consisting only of adipose tissue and the so-called mixed lipomas or lipoleiomyomas, which may contain smooth muscle tissue or dense fibrous connective tissue (3,4).

Some reports relating to the presence of both benign and malignant neoplasms composed of adipose tissue in

the ovary exist without discussion or illustrations (1,2,6). Although some cases may not have been recognized or recorded, we consider ovarian lipoma is extremely rare.

Lipomas frequently appear in the fourth and fifth decades of life. They have the gross appearance and histologic features of a typical lipoma normally found elsewhere and should not present a diagnostic problem.

Origin of the lipomatous tumors is not obvious in the genitourinary tract. Because adipose tissue is not native to the ovary, various theories of histogenesis have been proposed. These include misplaced embryonic fat cells, metaplasia of ovarian stromal cells into fat cells. In rare cases, however, lipomas originate in the fat cells of the teratomas or may arise from rare foci of adipose metaplasia of the ovarian mesenchyme.

Small collections of mature adipose cells forming islands of fatty tissue that are not encapsulated are noted occasionally with the ovarian cortex (2,7,8) and presumably are attributed to metaplasia of ovarian stromal cells; theoretically, they may serve as precursors to grossly apparent ovarian lipomas. These collections have been described as adipose *prosoplasia* (2). On the other hand; benign adipose tissue seen in the ovary may be a part of a teratoma with a prominent adipose tissue component (4). Mature ovarian teratoma (dermoid cyst) is the most common fat-containing ovarian neoplasm (9). Malignant adipose tissue may be a part of a MMMT with a prominent liposarcomatous component.

Familiarity with this entity is, however, important as it has to be distinguished from other fat-containing pelvic masses such as mature cystic teratoma, pelvic lipoma. Also definite diagnosis may affect the surgical planning. When imaging studies are performed, the fatty nature of the lesions are clearly demonstrated.

There are still controversy about the origin of the ovarian lipoma. It is considered either a teratomatous component or metaplasia of ovarian stromal cells. It is likely that both modes of origin are responsible for their formation.

## References

1. Carinelli I, Senzani F, Bruni M, Cefis F. Lipomatous tumours of uterus fallopian tube and ovary. *Clin Exp Obstet Gynecol* 1980; 7: 215-8.
2. Hart WR, Abell MR. Adipose prosoplasia of ovary. *Am J Obstet Gynecol* 1970; 106: 929-931.
3. Dodd GD, Lancaster KT, Moulton JS. Ovarian lipoleiomyoma: a fat containing mass in the female pelvis. *AJR* 1989; 153: 1007-1008.
4. Mira JL. Lipoleiomyoma of the ovary: Report of a case and review of the literature. *Int J Gynecol Path* 1991;10: 198-202.
5. Gardella C, Chumas JC, Pearl ML. Ovarian lipoma of teratomatous origin. *Obstet Gynecol* 1996; 87: 874-5.
6. Talerma A. Nonspecific tumors of the ovary, including mesenchymal tumors and malignant lymphoma. In: Kurman RJ, ed. *Blaustein's pathology of the female genital tract*, 4th ed. New York: Springer-Verlag, 1994:915-937.
7. Honore LH, O'Hara KE. Subcapsular adipocytic infiltration of the human ovary. *Eur J Obstet Gynecol Reprod Biol* 1980;10: 13-20.
8. Janovski NA, Paramandhan TL. Ovarian tumors, tumors and tumor- like conditions of the ovaries, fallopian tubes and ligament of the uterus. Philadelphia: WB Saunders, 1973.
9. Baeyens K, Fennessy F, Bleday R, Glickman J, Mortelet KJ. CT features of a tubal lipoma associated with an ipsilateral dermoid cyst. *Eur Radiol* 2004; 14(9): 1720-2.