

LIPOMATOUS TUMOURS OF UTERUS FALLOPIAN TUBE AND OVARY

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Lipomatous tumours are rare in the female genital tract ⁽¹¹⁾. Uterine lipomas occur in about 0.20% of uterine fibroids and generally are encountered as incidental findings ⁽¹⁵⁾, very rarely having been identified in curettage specimen ⁽²⁾. Most are found in the corpus; about 1/7 originates in the cervix ⁽¹²⁾.

Tubal lipomas are very rare, and only 14 cases have been reported to date ⁽¹⁻⁴⁾. Descriptions of ovarian lipoma are found in the old literature ⁽⁷⁾.

This report describes 11 lipomatous lesions, five of which originated in the uterus, one in the Fallopian tube and five in the ovary. Histogenesis of lesions is briefly discussed.

MATERIAL AND METHODS

The five uterine tumors represented 0.2% of uterine fibroids examined in the period 1978-1980. Four tumors (80%) measuring 2 to 10 cm in diameter were in the corpus. Adipose cells were sparsely distributed or in cluster in three typical leiomyomas and in one case (case 2) they involved the perivascular surrounding tissue (fig. 1). Adipose cells were the predominant component (fig. 2) in the biggest tumor (case 3), yellow in colour and soft; however, hyalinized smooth muscle was abundant around small vessels. Three of the four patients were postmenopausal and had endometrial adenocarcinoma (table 1). The fifth tumor measuring 1 cm in diameter, originated in the external surface of the cervix and extended in the parametrium. Lobules of typical adipose tissue were separated by septa and surrounded by a capsule of fibrous tissue. The woman was in childbearing age and had a squamous cell carcinoma of the cervix.

One tubal lipoma was found in a 50 year old female with endometrial adenocarcinoma (table 1); two 1 mm nodules of fat protruded into the lumen of the isthmus (fig. 3). Serial sections of both the tubes did not reveal any other lesion.

The ovarian lesion consisted of a cluster of adipose cells (fig. 4). It was microscopically detected in one out of 54 fibromas (2%) and two out of 51 fibrous nodules of ovarian cortex (4%); the last three lesions, two of which were bilateral, were in the ovarian cortex. The five women were postmenopausal and three had precancerous lesion of endometrium.

SUMMARY

Eleven lipomatous lesions of the female genital tract are here described: five originated in the uterus, one in Fallopian tube and five in the ovary. Proliferation of pluripotential mesenchimal precursor cell and adipose metamorphosis of fibroblasts and smooth muscle may explain histogenesis of lesion.

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Table 1. — *Lipomatous lesions of the uterus, Fallopian tube and ovary.*

	Case	Age	Site *	Size	Associate pathology
1	78528	50	R salpinx	0.2 cm	Endometrial adenocarcinoma
2	78647	66	Uterine corpus	4 cm	Endometrial adenocarcinoma and uterine myomas
3	791303	60	Uterine corpus	9 cm	Endometrial adenocarcinoma and uterine myomas
4	795361	33	Uterine corpus	10 cm	Uterine myomas
5	795624	54	Uterine corpus	2 cm	Endometrial adenocarcinoma and uterine myomas
6	805481	47	Uterine cervix	1 cm	Cervical squamous carcinoma
7	763745	62	R ovary	2 cm	Ovarian fibroma mucinous cyst
8	771164	44	L ovary	1 cm	Ovarian fibroma uterine myomas
9	772446	66	L ovary	7 cm	Ovarian fibroma endometrial polyp vulvar dystrophy
10	796327	67	R ovary	0.1 cm	Ovarian serous adenocarcinoma uterine myomas cystic hyperplasia
11	804567	57	R&L ovary	0.1 cm	Endometrial atypical hyperplasia

* R, right; L, left.

DISCUSSION

Tumors containing adipose tissue are rare in mullerian derivatives (¹¹); they are benign, but recently a liposarcoma of the cervix has been described (¹⁴).

Uterine tumors generally resemble leiomyomas grossly, but may be more soft and yellowish with increasing amounts of fat (¹²). On microscopic examination, cells that histologically and histochemically are typical for adipose cells are distributed in isolated clusters or in groups among the smooth muscle cells (^{5, 9, 15}), that if adequately searched out, are found also in the so called pure lipoma (⁵). Smooth muscle was absent only in one of our five tumors, originated at the interface of cervix and parametrium.

Lipomatous tumors of the Fallopian tubes do not represent an homogeneous group, as all portion of the tube (serosa, muscularis and mucosa) have been diffusely involved in most cases (⁴). At least only one of the three isthmal recorded cases was similar to the uterine tumors (¹³). Lipomatous lesions of the ovarian cortex are a microscopical finding and they are only rarely visible (⁷).

The origin of adipose tissue in uterus, tubes and ovary is uncertain. Fat cells are

not uncommon in subserosal layer (¹³) and along great vessels of both uterus and salpinx but increasing amount of this fat occurs almost exclusively in the external layer of tube (^{1, 4}). The cervical tumor here described probably belongs to this group of lesions. On the other hand in the uterine and in few tubal tumors the intimate relationship of fat and smooth muscle cells (^{5, 9}) has strongly suggested a single precursor cell for both component (^{5, 9}). Recently, fatty metamorphosis of uterine muscle, similar to that which occurs in atheromatous plaques, has been observed in toxemia of pregnancy (⁶), suggesting adipose degeneration or metaplasia of smooth muscle (¹⁴).

Ovarian cortical stroma cells may transform into adipose cells; this "microlipoma" was considered by some (¹⁰) an end stage of a cortical granuloma and an expression of multipotentiality of ovarian cortex by others (⁷). We observed the lesion also in fibrous nodules and in one fibroma that are considered of stromal origin.

Adipose tissue may be found rarely in mixed mullerian tumors of the uterus (⁸), but was not previously described in benign lesions of endometrium and endosalpinx. Finding of nodules of adipose tissue could

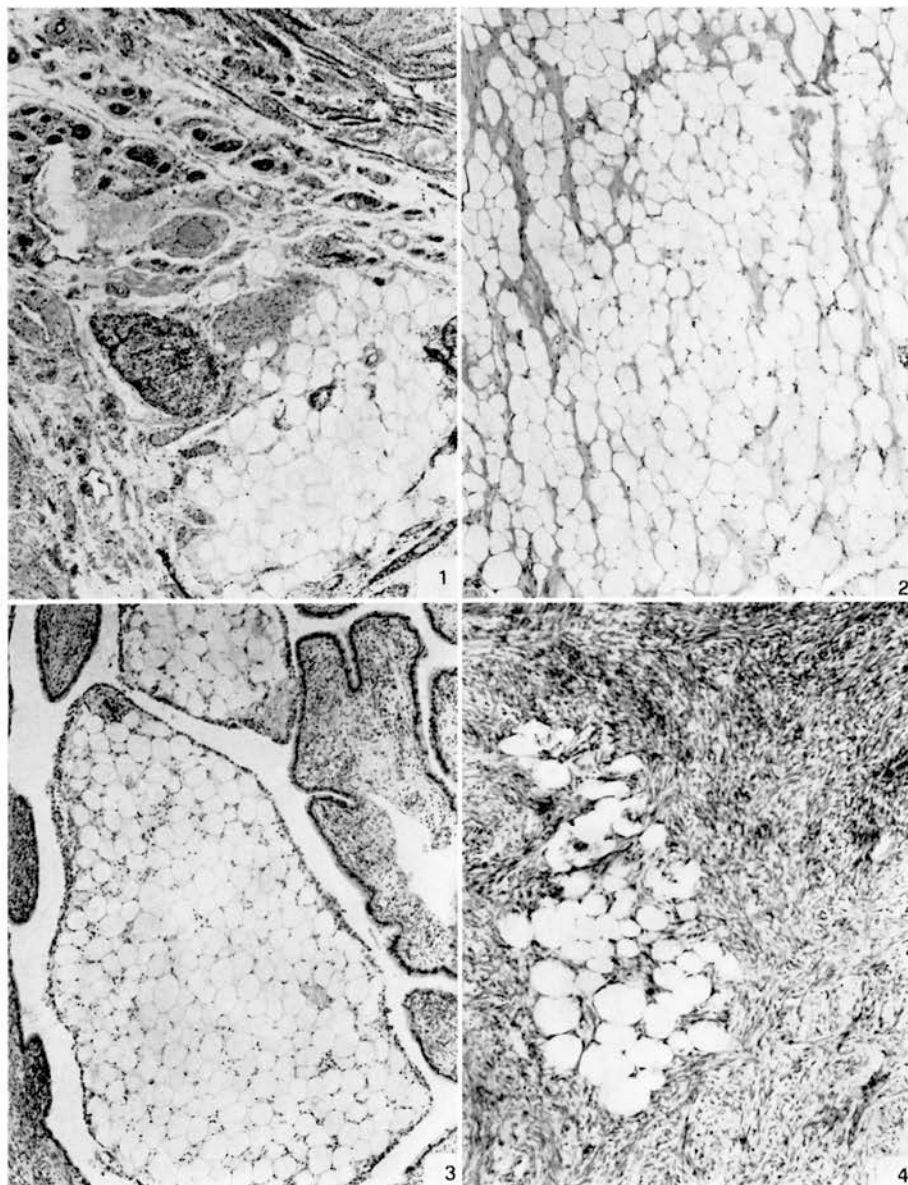


Fig. 1. — Adipose cells in the perivascular tissue surrounding an uterine lipoleiomyoma (case 2, H & E 75 $\times$).

Fig. 2. — The so called "pure lipoma" of the uterus (case 3, H & E 75 $\times$).

Fig. 3. — Lipomatous nodule of endosalpinx (case 1, H & E 75 $\times$).

Fig. 4. — Scattered adipose cells in the ovarian cortex (case 10, H & E 75 $\times$).

demonstrate that adipose metaplasia, even if rare, is possible in the mucosa of both the uterus and tube as observed in other organs ⁽³⁾.

Seven of eleven patients of our series had estrogenic manifestation but similar association is not a constant finding in the available literature.

In conclusion, "lipomas" of the uterus, Fallopian tube and ovary represent an expression of multipotential mesenchimal cells that are involved in the organogenesis of the female genital tract. Pure lipoma originated from subperitoneal or perivascular tissue are very rare. Uterine and tubal tumor with smooth muscle are in effect lipoleiomyoma ^(8,9), while for ovarian and many tubal lesion "adipose metamorphosis or metaplasia" should be the appropriate term.

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