

UTERINE LIPOMAS

Review of the literature

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Lipoma is a benign tumor composed of a mass of atypical adult adipose tissue, poorly delimited, thinly encapsulated and interspersed by thin septa of fibrous tissue⁽⁶⁾.

Lipomas are common and occur in sites where fat tissue is usually present, such as the subcutaneous fat layer, the mesentery, retroperitoneum, the fatty capsule of the kidneys, mediastinum, intramuscular stroma and in the intestinal mucosa. On the other hand lipomas of internal organs are rare and the lipomas originating in the uterus are a distinct rarity because the uterus has no fat content. Because many gynaecologists have never seen a uterine lipoma, difficulties of interpretation can arise if fat tissue is found in diagnostic endometrial curettage.

The first case of lipoma of the uterus was described by Lobstein in 1816, as quoted by Meinhof and Bersch⁽¹²⁾. The first review was written in 1903 by Saydel⁽¹⁷⁾ who summarized 11 cases. In an analysis of 31 cases of lipomatous lesions of the uterus up to 1922 Petersen⁽¹⁴⁾ encountered 10 cases of pure lipomas, 14 fibromyolipomas, 2 liposarcomas and 5 mixed tumors with lipomatous areas. Brandfass and Everts-Suarez⁽⁴⁾ reviewed the literature up to 1955 and found descriptions of 33 pure lipomas and 63 mixed lipomas. Barbanti-Silva⁽¹⁾ studied 131 cases of lipomatous lesions of the uterus in 1966. Willen *et al.*⁽¹⁹⁾ reviewed the literature from 1966 to 1976: 21 new cases of lipomatous lesions were summarized of which there were 8 cases of pure lipomas. They reported 4 new cases. In this paper we review the literature up to 1983.

Figure 1 shows the macroscopic appearance of a pure lipoma. Table 1 summarizes the data of 22 cases of lipomatous lesions of the uterus as reported in the literature between 1976 and 1982. Earlier literature was efficiently reviewed by Barbanti-Silva⁽¹⁾ and Willen *et al.*⁽¹⁹⁾. Clinical symptoms and physical signs of these tumors are identical with those cau-

SUMMARY

Lipomas of the uterus are extremely rare. Clinical symptoms and physical signs are similar to those found in leiomyomas. The question of histogenesis of lipomatous lesions of the uterus is discussed and the available literature up to 1982 is reviewed.

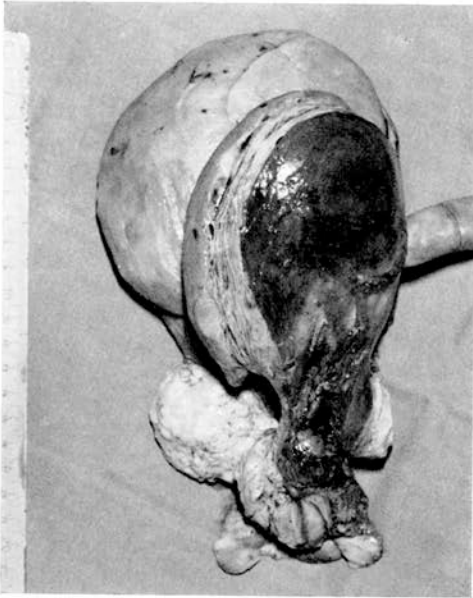


Fig. 1. — Pure lipoma of the uterus, cross section.

sed by leiomyomas. Patients may be completely asymptomatic; in 50% there is some type of uterine bleeding, which can be some chronic vaginal discharge, menorrhagia, metrorrhagia or recurrent post-menopausal bleeding. Mostly there is chronic pelvic discomfort, heaviness or pressure. Chronic blood-loss produces anemia with associated weakness. None of the reported tumors have been diagnosed before surgery. The only difference between lipomas and leiomyomas seems to be the age of the patient; about 70% of the lipomatous lesions of the uterus are found in post-menopausal woman, with the highest incidence between 50 and 70 years of age. The youngest patient was 23 and the oldest 88 years (¹⁶).

Uterine lipomas are located most frequently in the anterior or posterior wall of the corpus (88%). In 60% of the cases they are situated intramurally, the rest being located equally subserosal and submucosal. From a histogenetic point of view this is of no significance.

Most pure lipomas are round or oval shaped but the larger tumors may be lobulated and may show areas of cystic degeneration. The size of the tumors varies from a few millimeters to 32 cm in diameter. Most of them however measure 5 to 10 cm in diameter. On section they are pale yellow when pure, but mixed growths are firmer in consistency and grey-yellow in hue, due to the presence of fibrous septa. All lipomas are well demarcated from the adjacent myometrium and can be shelled out easily. Microscopically pure lipomas consist only of adult adipose tissue which can be rich in small blood vessels and the tumor may or may not be outlined by a fibrous capsule. Depending on the presence of other tissue elements such as smooth muscle cells or fibrous tissue cells they are called leiomyolipomas, fibromyolipomas and so on. Willen *et al.* (¹⁹) suggested the term "diffuse and circumscribed lipomatosis in a leiomyoma" in distinction to the more rare pure lipomas. The incidence of such lesions in leiomyomas varies from 0.03% as stated by Robertson and Barber (¹⁵) to 0.12% in the series studied by Salm (¹⁶). Vandora *et al.* (¹⁸), Carinelli *et al.* (⁵) and Salm (¹⁶) reported the association of lipomatous lesions of the uterus with adenomatous polyps and even endometrial adenocarcinoma. Estrogenic manifestation is not a constant finding in the literature. An explanation for estrogenic manifestation may be the conversion of androgens to estrogens at a local level within the fat tissue of the lipoma.

The histogenesis of lipomatous lesions of the uterus remains unclear; the advanced theories can be summarized as follow: misplaced embryonic mesenchymal cells; direct metaplasia from smooth muscle cells or connective tissue cells; perivascular extension of fat along the uterine vessels; lipocytic differentiation of a specific primitive connective tissue cell; fatty infiltration or degeneration of connective tissue in the uterus and inclusion of fat

Table 1. — *Lipomatous lesions of the uterus, as reported in literature 1977-1983.*

Author / Year	Age	Parity	Uterus	Site	Size	Associated disease	Amount of muscle fibres
Benoit 1977	52	—	—	Lateral wall	4 cm	Leiomyoma	Large
Willen, 1978	56	G ₀	700 g	Fundus	8 cm	Leiomyoma	Large
	47	G ₅ P ₄ A ₁	690 g	Lateral wall	8 cm	Leiomyoma	Large
	64	G ₀	1500 g	Anterior wall	18×14×14 cm	Leiomyoma	Small: pure lipoma
	61	G ₂ P ₂	650 g	Anterior wall of cervix	7×4×6 cm	Leiomyoma	Large
Honoré, 1978	40	—	180 g	Fundus	11×8×5 cm	Leiomyoma	Large
Kleinschmidt, 1978	54	G ₃ P ₃	780 g	Posterior wall	12×6×9 cm	Leiomyoma	None: pure lipoma
Houser, 1979	59	—	—	Corpus	16 cm	Leiomyoma	Fibromyolipoma
Loendersloot, 1979	79	G ₃ P ₃	940 g	Corpus	11,5 cm	None	None: pure lipoma
Bettendorf, 1980	35	—	—	Corpus	11×9×6 cm	Leiomyoma	Large
Gáspár, 1980	71	—	700 g	Posterior wall	11 cm	Leiomyoma	None: pure lipoma
	64	—	695 g	Posterior wall	12×9×12 cm	Leiomyoma	None: pure lipoma
Carnelli, 1980	66	—	—	Corpus	4 cm	End. adenoca/Myoma	Large
	60	—	—	Corpus	9 cm	End. adenoca/Myoma	Large
	33	—	—	Corpus	10 cm	Leiomyoma	None: pure lipoma
	54	—	—	Corpus	2 cm	End. adenoca/Myoma	Large
	47	—	—	Corpus	1 cm	Squamous ca cervix	Large
Dharkar, 1981	58	G ₅ P ₅	1000 g	Corpus	14 cm	None	None: pure lipoma
	68	G ₂ P ₂	1100 g	Corpus	15×11×9,5 cm	Polyp	None: pure lipoma
	59	G ₃ P ₃	800 g	Corpus	13×7×7 cm	Leiomyoma	None: pure lipoma
Nosari, 1982	69	G ₁₀ P ₁₀	—	Corpus	5 cm	Hyperplasia	Large
	51	G ₄ P ₄	—	Corpus	3 cm	Leiomyoma	Large

during surgery. Willen *et al.* ⁽¹⁹⁾ and Salm ⁽¹⁶⁾ suggested fatty metaplasia of smooth muscle cells of leiomyoma as the aetiological factor in the formation of adipose tissue.

They stated that if the process continues it might lead to complete replacement of the leiomyoma, thus forming the pure lipoma. Honoré ⁽⁸⁾ considered lipomatous lesions as expressing the three basic potentialities of a single cell, the adventitial fibroblast. Gáspár ⁽⁷⁾ reported 2 cases of pure lipomas of the uterus and in addition to the histologic picture of a lipoma he found lipoblasts and embryonal fat cells in varying numbers. He stated that these early fat cells arise from the perivascular mesenchym. The most plausible explanation would be that the undifferentiated mesodermal cell can convert spontaneously into a great variety of mesodermal cells. This is certainly true in the endometrium and there seems to be a *de novo* differentiation of the immature mesodermal cell into the lipomatous variety. This is not lipomatous degeneration but rather a real lipoma.

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