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### RESEARCH ARTICLE

#### UTERINE LEIOMYOMA WITH MASSIVE LYMPHOCYTIC INFILTRATION - CASE REPORT

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#### Abstract

Uterine leiomyomas are the most common benign smooth muscle tumors; they are often treated by surgical removal. Lymphocytic infiltration within the uterine leiomyoma is rare. Malignant lymphoma is the first differential diagnosis to be feared. Twenty such cases have been reported in English literature. We reported a case of a 36-year-old woman who had undergone surgery for a uterine fibroid. Macroscopically, it did not differ from typical leiomyoma. Microscopic examination showed a typical leiomyoma diffusely infiltrated by lymphocytes, with a suspicion of malignant lymphoma.

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#### Introduction:-

Uterine Leiomyomas are benign neoplasm of the uterus, occurring in 20% of women during their reproductive ages. Leiomyoma showing massive lymphocyte infiltration is a rare pathological finding. Twenty such cases have been reported in English literature [1]. We report an additional case of leiomyoma with massive lymphoid infiltration. They are characterized by a lymphocytic infiltrate of variable intensity mixed with some plasma cells, eosinophils and more rarely histiocytes [2]. We reported a case of a 36-year-old woman who had undergone surgery for a uterine fibroid. Macroscopically, it did not differ from typical leiomyoma. Microscopic examination showed a typical leiomyoma diffusely infiltrated by lymphocytes, with a suspicion of neoplastic lymphoproliferation.

#### Case Report:

A 36-year-old woman, nulliparous, was admitted to the Department of Gynecology and Obstetrics for planned surgical treatment because of uterine fibroid. The patient reported excessive menstrual bleedings. Laboratory tests revealed that the patient had anemia, but leukocyte count, platelet count, and all biochemical tests were normal. Abdominal sonography showed uterine myoma measuring 5 cm in its greatest diameter. No non-invasive methods or pharmacological treatment were applied. Laparotomy was performed and the uterine leiomyoma was removed.

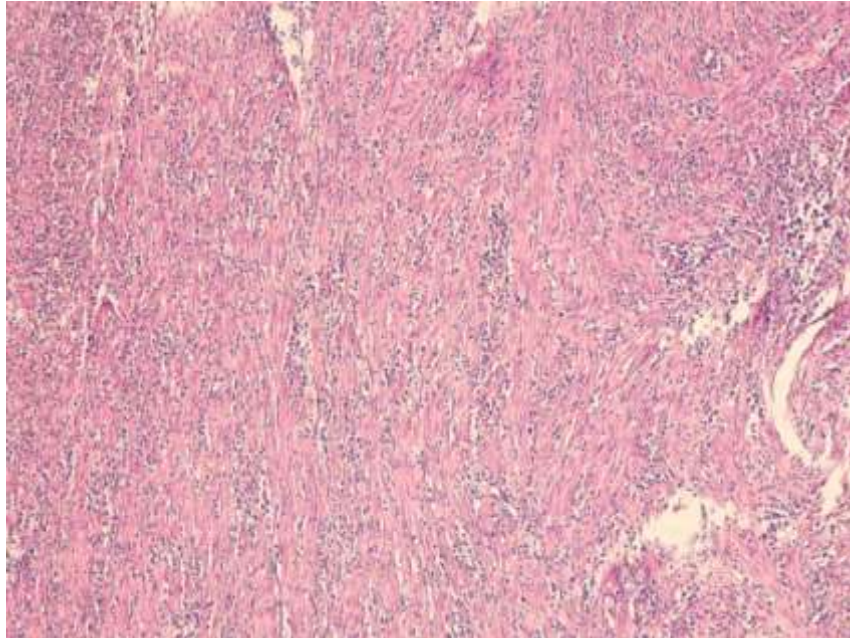
On gross examination the tumour measured 5cm × 4.5 cm × 4 cm, and had the typical uterine smooth muscle wall consistency.

Microscopically, the tumor revealed the usual morphological features of leiomyoma characterized by interlacing bundles of smooth muscle cells. No nuclear atypia was present and there were two mitoses/50 high-power fields (HPF). Among the tumor cells, there was moderate to severe infiltration of small lymphocytes. They were arranged in a diffuse pattern through the entire leiomyoma (Fig. 1). The infiltrate consisted of numerous small lymphocytes mixed to some plasma cells, eosinophils and histiocytes. Mast cells were rare. No neutrophils were identified (Fig. 2)

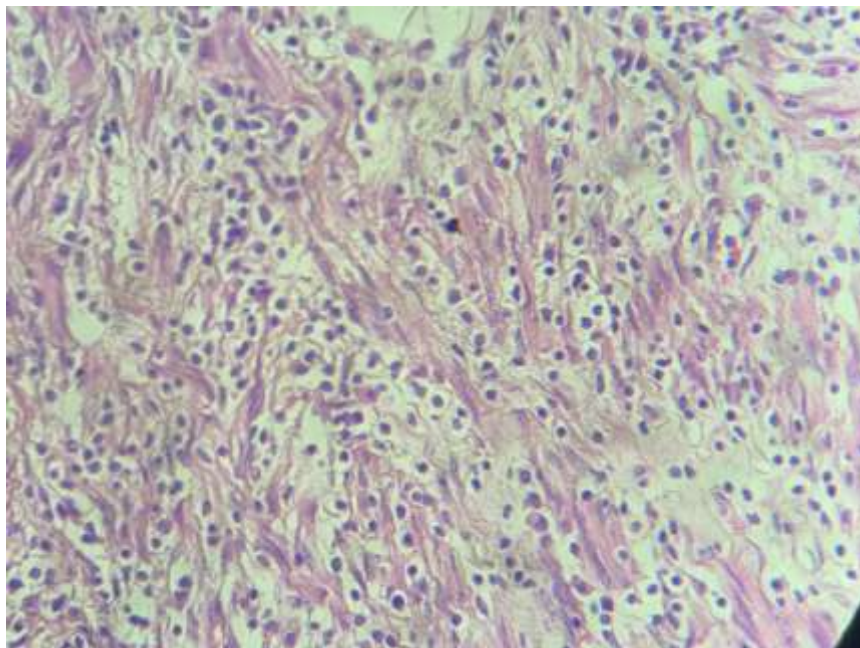
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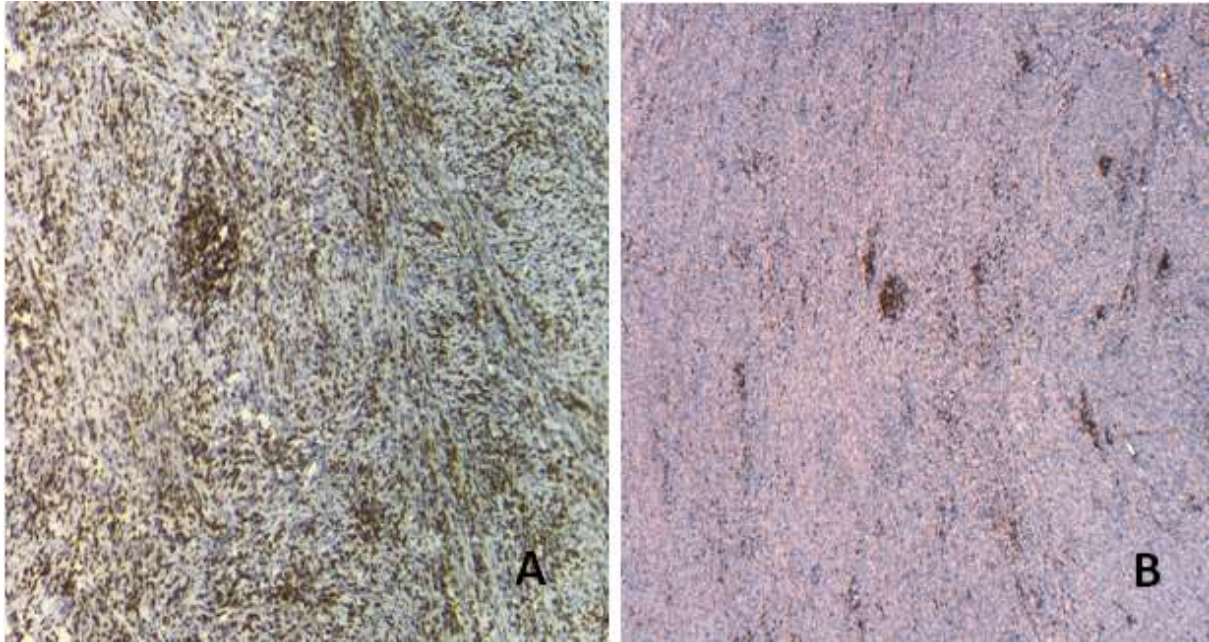
Immunohistochemically, the diffusely infiltrating lymphoid cells were usually positive for CD3 (Fig. 3A). Most of the infiltrating T cells were positive for CD8. Almost no CD4-positive cells were identified. The rest of lymphocytes, generally organized in nodular aggregates without clear germinal center, were positive for CD20 (Fig. 3B). No CD56-positive natural killer (NK) cells were present. The histopathological diagnosis was established: leiomyoma with massive lymphoid infiltration. The postoperative course of the patient was uneventful without further treatment.



**Fig. 1:-** The uterine leiomyoma displays scattered lymphocytic infiltrates. HE. Obj. magn. 10×



**Fig. 2:-** Among the cells infiltrating the leiomyoma – many lymphocytes, scattered few plasma cells. HE. Obj. magn. 40×



**Fig. 3:-** Immunohistochemical stainings of the lymphoid infiltrates: The infiltrates are mostly CD3 positive lymphocytes (A) and a small number of the infiltrates are positive for CD20 (B) ( $\times 100$ ).

### Discussion:-

Uterine leiomyomas are the most common benign smooth muscle tumors; they are often treated by surgical removal. Lymphocytic infiltration within the uterine leiomyoma is rare. Malignant lymphoma is the first differential diagnosis to be feared [2]. Twenty such cases have been reported in English literature [1]

Affected patients have an average age of 45, ranged from 25 to 53 years. The size of reported leiomyomas ranged from 2 to 12 cm in the greatest dimension, in our case the big diameter was 5 cm. The gross appearance of this entity was typical of the usual leiomyoma with a white and firm cut surface. More rarely, they may show a relatively light flesh-colored appearance [3,4]. Histologically, they are characterized by a lymphocytic infiltrate with variable intensity mixed to some plasma cells, eosinophils, more rarely histiocytes and occasionally prominent germinal centers. The lymphoid infiltration was usually, confined to the myoma, and rarely extended into the adjacent myometrium [2].

The immunohistochemical stains showed that the diffusely infiltrating lymphocytes were mostly T cell phenotype. Those lymphocytes were positive for CD45RO, CD3 and CD4 or CD8. In contrast, B lymphocytes, which were positive for CD20 and CD79a, were confined to the germinal centers. Histiocytes (CD 68+) may also be present in the tumor. Our case also showed diffusely infiltrated T lymphocytes and a minor component of B lymphocytes in the germinal centers. The predominantly infiltrated T lymphocytes were mostly positive for CD8 [5].

So far there are no well-defined causes for this neoplasm. Some pathogenesis have been discussed, but without confirmation. The treatment of leiomyoma with gonadotrophin releasing hormone (GnRH) agonist is the most raised hypothesis in the literature [4,6]. However, no history of GnRH agonist treatment is documented in our case and in some other cases. The use of an intrauterine contraceptive device has also been proposed as an explanation for this inflammatory infiltrate [3,7]. However, no history of using an intrauterine contraceptive device is documented in the present case and in some other cases.

Malignant lymphoma, inflammatory pseudotumor and pyomyoma are the main differential diagnoses [2,3]. However, malignant lymphoma is the first differential diagnosis to be excluded. In malignant lymphoma, the large lymphoma cells infiltrate at the same time the leiomyoma and the myometrium. In contrast, in leiomyoma with massive lymphoid infiltration, the small mature lymphocytes were confined to the leiomyoma.

The second differential diagnosis of uterine leiomyoma with massive lymphoid infiltration that must be excluded is inflammatory pseudotumor which contains frequent neutrophils, a feature not present in leiomyoma with massive lymphoid infiltration. But, in this lesion, the inflammatory process involves the adjacent myometrial fibers and the endometrium.

Pyomyoma usually occurs in leiomyomas with degenerative changes, which means that the tumor represent cystic degeneration and secondary dense inflammation [5,8].

### **Conclusion:-**

The causes of leiomyoma with massive lymphoid infiltration are not clear, but this entity remains a distinct histological morphology, that each pathologist must know to avoid possible confusion with the different differential diagnoses.

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