Beyond the Surface: the Diagnostic Spectrum of Uterine "Fibroids". A Retrospective Monocentric Study

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Introduction

The **2020 WHO classification** of gynecological tumours expanded the spectrum of mesenchymal uterine tumours beyond smooth muscle tumours, **challenging the traditional benign-malignant dichotomy.** This study aimed to describe the pathological landscape of presumed "uterine fibroids" in a tertiary referral centre and assess use and contribution of **immunohistochemistry** (IHC) to the diagnosis.

Methodology

Retrospective monocentric study including **300 patients** undergoing **surgery for uterine fibroids** between January 2023 and December 2025.

Clinical, imaging, surgical, pathological, and follow-up data were collected.

A **standardized IHC panel** (Desmin, H-Caldesmon, ALK, Fumarate Hydratase, 2SC, Estrogen and Progesteron receptors) was performed in cases with **atypical clinical or morphological features.**

Results

Mean age was **42±8 years**

Myomectomy was performed in **66%** and **hysterectomy** in **34%**, with a 7.3% complication rate.

IHC was performed in **203 cases** (67.6%): 90% were typical leiomyomas, while **10%** included **variants** or distinct WHO entities, including **fumarate hydratase-deficient leiomyoma, intravenous leiomyomatosis, inflammatory myofibroblastic tumours, STUMP, and LGESS.**

I**MT incidence** in our cohort was **3/300** (**1%**), with a **median age of 43.3 years** and a **median tumor diameter of 73 mm**. There is limited evidence in the literature; however, according to a recent meta-analysis (Pickett et al., 2017), IMTs are rare and typically occur in young women (mean age 39 years, median diameter 45 mm). Overall, **our findings are consistent with the available literature**, confirming the rarity of IMTs and a comparable age distribution, although **our cohort showed a larger median tumor diameter.**

FH-deficient tumor incidence in our cohort was **4/300** (**1.3%**), with a **mean age of 40.7 years.** According to Rabban et al. (2019), the reported incidence is approximately 1.4%. Given that FH-deficient tumors are typically observed in younger patients, **all patients aged <30 years in our cohort were tested** by IHC regardless of clinical suspicion. Taken together, these data support the low frequency of FH-deficient tumors and demonstrate a **similar incidence compared to previously published series**, despite a **slightly higher mean age** in our cohort.

Conclusions

As the spectrum of diagnoses in mesenchymal uterine tumours is expanding, **increased awareness** of these entities among both clinicians and pathologist is challenging their supposed rarity, stressing their **under-recognized nature**.
We believe there is room in clinical and pathological practice to **enhance risk stratification** and **optimize surgical management.**

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