Can a uterine leiomyoma turn into a malignant leiomyosarcoma? A case report.

Context: The malignant transformation of a uterine leiomyoma is still debated and, if it occurs, it is very rare.

Objective & Methods: The case of a patient affected by one small leiomyoma is described. Diagnosis was made postoperatively on histopathological examination. The case reported here is meant to underline the need to keep all uterine myomas in check since the transition into leiomyosarcomas may occur with an evolution over a time period which has not been established so far. Specific receptors for LH/hCG have also been identified in the myometrium of several animal species, including humans. Conventional leiomyosarcomas express estrogen receptors (ER), progesterone receptors (PR), and androgen receptors (AR) in 30-40% of cases.

Patient: A 43-year-old female patient presented at the Division of Obst/Gyn complaining of a left anechoic adnexal cyst. Ten years before she had undergone one successful IVF cycle and in that occasion a transvaginal pelvic ultrasound revealed a small solitary intramural leiomyoma of the posterior wall of the uterine body. The patient underwent a left monolateral laparotomic salpingectomy without complications. The extemporaneous histologic examination of the cyst was performed. While waiting for the outcome of histology, the surgical team decided to remove the uterine myoma.

Results: The pathological examination on frozen section revealed an hydrosalpinx with tubal endometriosis, but the final histopathological results of the uterine specimen showed an unexpected "Cellular leiomyoma with a central area of malignant transformation into leiomyosarcoma (more than 10 mitoses per 10 high-power fields) Desmin +, Actin +, p16 +, Ki67 + in 1% of the neoplastic cells". Conclusions: It could be useful to understand with further researches if hormonal stimulation could be a contributing factor of uterine leiomyoma transformation into leiomyosarcoma. Until today the oncogenic mechanisms underlying the development of uterine leiomyosarcomas remain elusive.