# Malignant transformation of uterine leiomyomata

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**Summary**

The malignant transformation of a uterine leiomyoma is still debated and, if it occurs, it is very rare. The case of a patient affected by three small leiomyomas, monitored by the same gynecologist over the years is described. Two of these leiomyomas were transformed into leiomyosarcoma after menopause and the patient died despite receiving therapy. 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.

*Key words:* Leiomysarcoma; Uterus; Leiomyoma.

## Introduction

Uterine leiomyosarcoma is an unusual neoplasia. It usually crop ups in a fibromatous uterus, although it has been debated whether leiomyosarcoma may develop from leiomyoma. However, such event seems to be very infrequent [1]. In this case report we would like to highlight that malignant transformation of uterine leiomyoma can occur over the years.

## Case Report

Since the age of 41 the patient had been submitted to transabdominal and transvaginal pelvic and ultrasound (US) examinations carried out by the same gynecologist. The first US examination showed a small (0.7 cm in diameter) intramural leiomyoma of the posterior wall of the uterine body. Over the years, no alteration visible through US scanning was detected in the lesion. When the patient was 46 years old, the dimensions appeared increased (1.3 cm in diameter), and at the same time another subserous leiomyoma (1.2 cm in diameter) became visible on the fundus of the uterus. When she was 48, these leiomyomata did not show any visible alterations on US, while the presence of a third intramural leiomyoma (1.4 cm in diameter) was ascertained in the posterior wall of the uterine body. When she was 49, the patient entered menopause. When she was 53, a transvaginal US examination highlighted the presence of a mass 4 cm wide inside the posterior wall of the uterine body along with another mass 3.5 cm wide inside the anterior wall of the uterine body, together with the presence of a small subserous leiomyoma on the fundus, unchanged in size with US features a comparable to the previous checks. Both masses, hypogenic on US scan, showed a low-resistance blood flow. Nuclear magnetic resonance confirmed the US findings (Figures 1 and 2). Consequently, the patient was urgently submitted to hysterectomy with bilateral salpingo-oophorectomy. The microscopic features of the masses were compatible with leiomyosarcoma (more than 10 mitoses per 10 HPF), with severe nuclear atypias and vascular space involvement. The tumor was limited to the uterus and situated in the site where the previous US scans had detected the two intramural leiomyomata. Moreover, the presence of a small subserous myoma on the fundus of the uterus was confirmed, while no other leiomyomata were found. Just a few months after the surgery, a central pelvic relapse was found so the patient was submitted to chemotherapy and debulking surgery. She died the following year.

## Discussion

Analyzing the evolution of the case under examination, and in light of the several US scanning checks carried out over the years on the patient, it is likely that the two – very small-sized – intramural myomas may have undergone malignant transformation. However, it is reported that leiomyosarcoma is usually a newly appearing tumor [1] having a genetic structure different from that of leiomyomata [2]. Only a few authors [3, 4] have provided evidence supporting the transition of a leiomyoma into a leiomyosarcoma, which is in any case a very sporadic event. In our opinion, it does not seem possible to verify the transition of a leiomyoma into a leiomyosarcoma in clinical practice so it cannot be established how unusual such event is and within what lapse of time it can appear. The case reported here is meant to underline the need to keep all uterine myomas, including when small in size, under control. Cases leaning towards a suspicion of malignancy after menopause when even minimum growth is noticed should be followed closely since the transition into a leiomyosarcoma may occur, although – as we have already stated – this is a very unusual case, with a progression over time which cannot be established.

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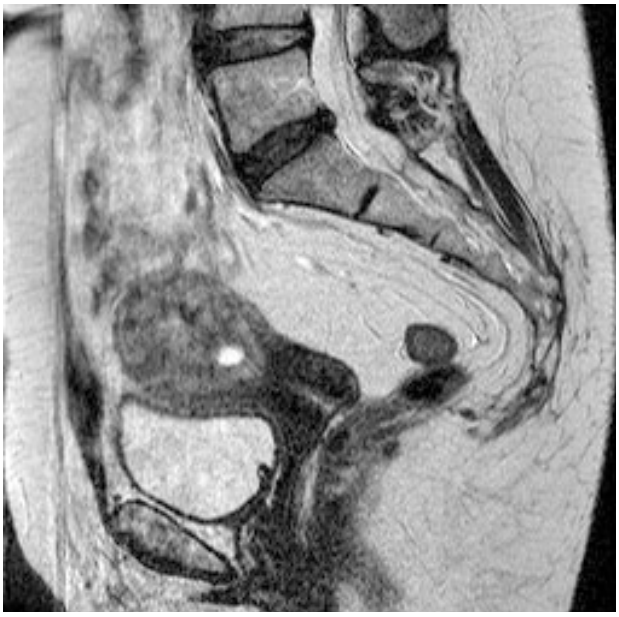

Figure 1. — Nuclear magnetic resonance (NMR) imaging of leiomyosarcomas (sagittal scan).

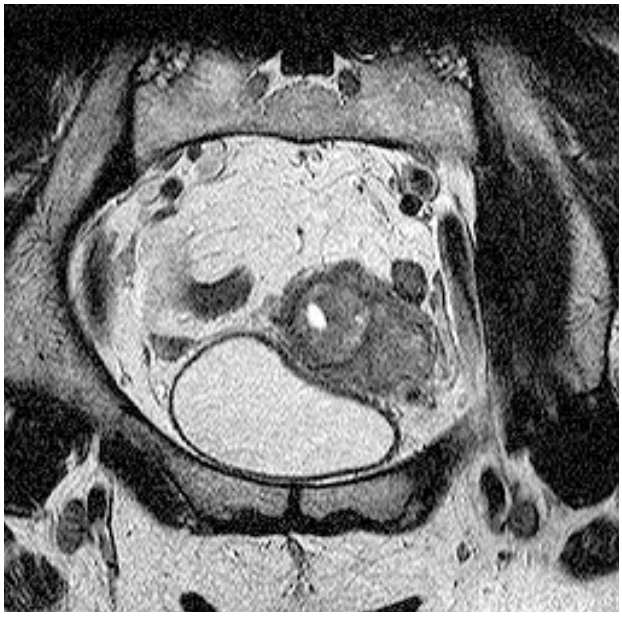

Figure 2. — NMR imaging of the two leiomyosarcomas (transverse scan).

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