Intravenous leiomyomatosis of the uterus: link with new fertilisation methods?

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A 41-year-old woman with a medical history of hormonal treatment for primary infertility eight years earlier and three subsequent operations for “recurrent uterine leiomyomas”, was admitted to our hospital with suspected iliac vein thrombosis extending to the inferior vena cava in CT. Hysterectomy had been performed two weeks earlier for an enlarged heterogeneous uterus on MRI that raised the possibility of leiomyosarcoma. Indeed, although some MRI features can suggest malignancy, there are no specific imaging criteria differentiating leiomyosarcoma from other uterine tumours.

The histopathological result of the hysterectomy specimen pointed to the diagnosis of intravascular leiomyomatosis (IVL). The clinical picture pointed to the diagnosis of intravascular extension of the uterine IVL into the iliac vein and inferior vena cava (IVC). Excision of the intravascular mass was performed. The surgical specimen exactly fitted with the CT images (fig. 1a–b). There was no thrombotic component to the mass. Differential diagnosis of this IVC mass includes primary leiomyosarcoma, sometimes mimicking carcinosarcoma, or “metastasising” leiomyoma with benign pulmonary nodules. 

Symptoms and signs depend on the sites of tumour extension. Definite diagnosis is confirmed by histopathology. Treatment consists of complete resection of the mass to prevent recurrence.

There seems to be an increased number of IVL cases reported over the last few years, which could possibly be due to an increased incidence of this rare tumour. One hypothesis could be that the now widespread use of fertility treatments may trigger tumour growth in hormone-sensitive tumours in which nuclear oestrogen and progesterone receptors can be demonstrated. The role of reproductive techniques as a risk factor has already been suggested in cases of leiomyomatosis peritonealis disseminata. [7] Interestingly, anti-oestrogens such as tamoxifen or raloxifene [8] or GnRH agonists [9, 10] have been used for treatment of IVL. The aromatase inhibitor letrozole has also been used in one patient. However, these therapeutic non surgical options must still be considered hypothetical.

References