

# **THE DIAGNOSIS OF INTRAVENOUS LEIOMYOMATOSIS OF AN EARLY STAGE IS DIFFICULT**

Sir,

A 43-year-old multiparous woman (gravida 6, para 3) was admitted because of a leiomyoma that increased in size. There was no history of leg swelling, pain or irregular

pulse at that time, but she had undergone surgery for mammary cancer 2 years ago. She was therefore operated upon. We could not detect the intravenous leiomyomatosis (IVL) by computed tomography scan or magnetic resonance imaging (MRI) before the operation.

A total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed. At laparotomy the uterus was asymmetrically enlarged. A sausage-like elastic tumor extended from the right side of the uterine myoma [Figure 1]. At first, we mistook this tumor for the ureter, which is similarly smooth and elastic. However, we could conclude that the sausage-like elastic tumor was myoma, because it was connected to the uterine myoma and we confirmed that the ureter was present. The smooth tumor was touching a vein, but it was easily released from the vessel wall. The sausage-like elastic tumor was not macroscopically invasive to the vein, but when examined pathologically in its entirety, we detected evidence of intravascular growth [Figure 2]. This sausage-like elastic tumor was found to be invasive

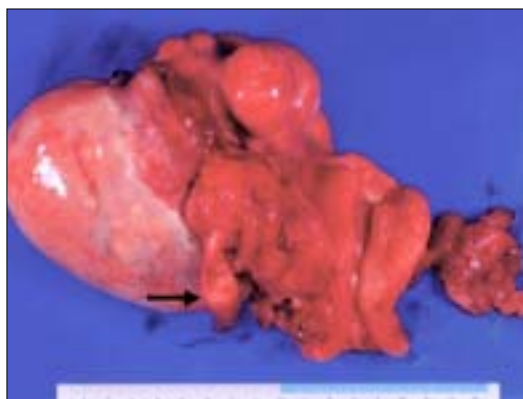


Figure 1: Cut surface of the uterus showing 5 cm long intravenous leiomyomatosis (arrow)

uterine myoma's vascular in pathological analysis. Uterine myoma tissue does not have invasive vasculature in general. Moreover, generally uterine myoma tissue does not have invasive vasculature of uterine myoma itself. Therefore, pathology revealed IVL.

The patient has been scheduled for a long-term follow-up. More than 13 months after surgery, the patient has been doing well without recurrence. The patient did well postoperatively.

IVL is a rare benign tumor originating in the uterus. The tumor is characterized by the growth of smooth muscle tumor cells into venous channels or lymphatics. Although benign, this tumor may mechanically obstruct the inferior vena cava, right heart or the pulmonary artery, resulting occasionally in death.<sup>[1]</sup> Even if the IVL causes an irregular pulse, the diagnosis is difficult. Moreover, it is difficult to diagnose the tumor before operating upon it if the IVL does not extend into the inferior vena cava.

IVL was first reported by Birch-Hirschfeld in

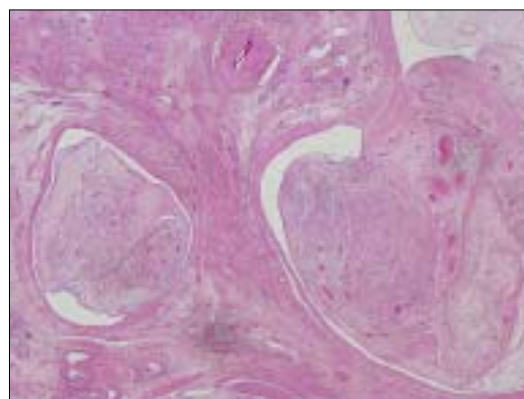


Figure 2: Microscopic picture of tumor, which was diagnosed as intravenous leiomyomatosis

1896<sup>[2]</sup> and since then many reports have dealt with IVL. Most of the recent case reports suggested that the myoma penetrates to the inferior vena cava or reaches the right atrium. A diagnosis of IVL is comparatively easy, when MRI visualizes the connection between an intravenous mass and the uterus. MRI is therefore a useful tool to assure the diagnosis of IVL.<sup>[3]</sup> Harris *et al* reported that 64% of patients with IVL had a history of previous hysterectomy.<sup>[4]</sup> On the other hand, Ahmed M. *et al* reported on recurrent IVL in patients after hysterectomy.<sup>[3]</sup> This report concluded that IVL could be correctly diagnosed if the pathological diagnosis of IVL is known. However, in the present case, which was at an early stage of IVL, the diagnosis was even more difficult because MRI is not useful in the early stage before IVL enters clearly into the vessel wall. We were concerned that we would not be able to make the diagnosis during the operation because the sausage-like elastic tumor had not invaded into the vein but was only touching the vessel wall. Although we sensed some inconsistency during the operation, we were not able to pinpoint it as IVL.

If gynecologists find the sausage-like elastic tumor extending out of the uterine myoma during the operation, IVL should be suspected. It is especially important to sense such inconsistency during the operation and gynecologists should be able to recognize existence of the special uterine myoma called IVL. Although there are symptoms such as irregular pulse, heart pain and more in general IVL, there are many cases with no symptoms in the early stage. Awareness of the possibility of finding symptomless IVL may allow earlier diagnosis. If the

gynecologists extracted the IVL incompletely, IVL could recur in the blood vessel and could occur as tumor embolus. It is not good for patients.

## REFERENCES

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