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Intravascular myopericytoma on the right dorsal foot

Myopericytoma (MP) is a rare benign subcutaneous tumour that was first described by Granter *et al*. in 1998 [1]. It is characterized by the presence of numerous thin-walled blood vessels with concentric perivascular multi-layered oval-to-spindle-shaped myoid-appearing cells. The tumour cells express α-smooth muscle actin (SMA) and h-caldesmon, but not desmin [1]. We herein report a case of intravascular myopericytoma (IVMP), an intravascular variant of MP, that developed on the right dorsal foot.

A 71-year-old man consulted our hospital for evaluation of a subcutaneous mass with tenderness on the right dorsal foot, which had been rubbed by a knot of his shoelace. The patient had first noticed the mass 30 years previously, and it had gradually grown in size. At clinical examination, a bluish violet mass of approximately 10 mm in size could be seen through the skin (*figure 1A*), which was elastic, hard, and pulsating. The skin covering the tumour showed slight redness. An ultrasound examination showed a well-defined hypoechoic nodule with a lobulated appearance of 12 × 4 mm in size, in the subcutaneous tissue (*figure 1B*). Blood flow was observed within the tumour. The tumour was completely resected. A histopathological examination revealed a subcutaneous tumour located within the dilatated and attenuated vein (*figure 1C, D*). The tumour was composed of myoid-appearing oval-to-spindle-shaped cells with a concentric arrangement of cells around various-sized vessels (*figure 1E*). No atypical or mitotic cells were observed. Immunohistochemically, the tumour cells were positive for SMA (*figure 1F*) and h-caldesmon (*figure 1G*) but not for desmin (*figure 1H*). In contrast, the vessel wall surrounding the tumour was positive for SMA (*figure 1F; arrowhead*), h-caldesmon (*figure 1G; arrowhead*) and desmin (*figure 1H; arrowhead*). Accordingly, the tumour was diagnosed as IVMP. Thereafter, the tenderness completely disappeared, and no recurrence of the lesion has been observed for one year.

IVMP is an intravenous variant of MP that was first reported in 2002 by McMenamin and Calonje [2]. Twelve cases have been reported in the English literature. According to a previous report, in most cases, IVMP develops on the legs and is associated with tenderness or pain [2-4]. The histology of MPs -including IVMP- occasionally resembles that of angioleiomyoma, which is also composed of fascicles of smooth muscle cells with cigar-shaped nuclei. Regarding findings for differentiation, angioleiomyoma is more fascicular than MP, and the tumour cells of angioleiomyoma express desmin [5]. The clinical and histological findings in the present case appear to be typical of IVMP.

In the present case, the tumour developed in a region that was frequently rubbed by a knot of a shoelace. Although the pathogenesis of IVMP remains unclear, we hypothesized that microtrauma or chronic stimulation may be associated with the development of IVMP. Similarly, some previous reports have also mentioned trauma/microtrauma as an aetiology of IVMP [2, 3]. In addition, the fact that most reported IVMPs develop in the extremities may support our hypoth-

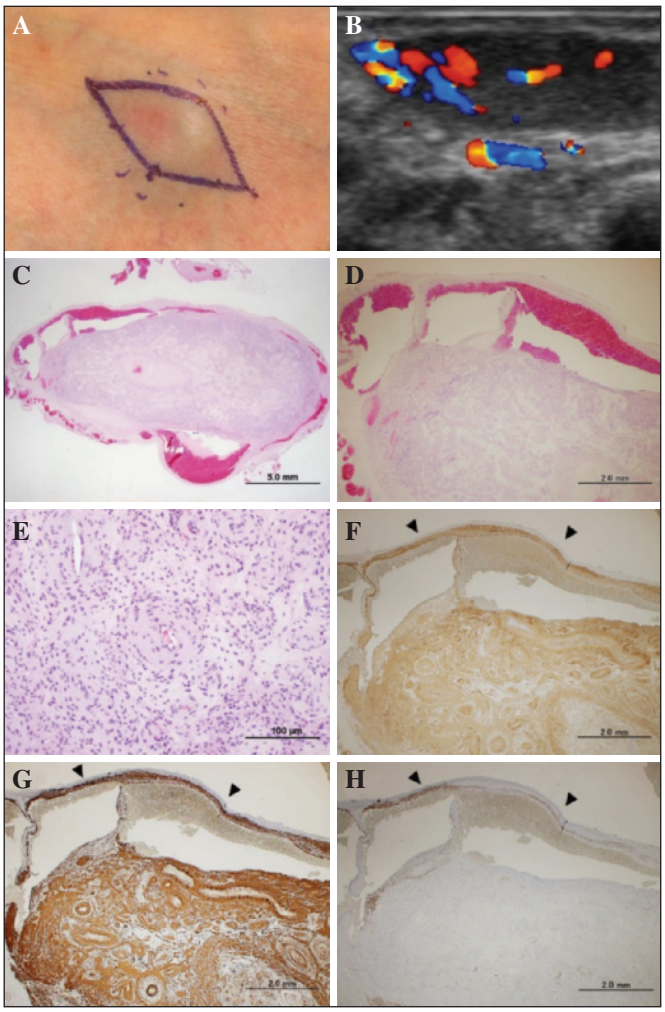

Figure 1. A) Clinical appearance showing the tumour located on the dorsal foot. **B**) Ultrasound examination. **C-H**) Histological examination reveals a tumour located within the dilatated vein (haematoxylin and eosin staining) (**D**); numerous small blood vessels within the tumour, with each vessel concentrically surrounded by spindle cells (**E**); and expression of α-SMA (**F**) and h-caldesmon (**G**), but not desmin (**H**), in the tumour cells (arrowheads indicate the vessel wall surrounding the tumour in (**F**-**H**).

esis. Although further studies will be required to clarify the pathomechanism of IVMP, the present case will help extend our knowledge about IVMP. ■

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Urticaria as a first clinical manifestation of COVID-19

Cutaneous manifestations associated with coronavirus disease 2019 (COVID-19) have been recently described [1-3]. Urticaria was first reported in two of 140 patients (1.4%) infected by severe acute respiratory syndrome- coronavirus-2 (SARS-CoV-2) from Wuhan, China [4]. Some additional cases (only adults of both genders) have been subsequently published [5-10] (*table 1*). In some cases, urticaria preceded respiratory manifestations of COVID-19 [7,8]. We present three cases of acute urticaria that appeared some days before symptoms of COVID-19.

Two men aged 38 and 46 and a 42-year-old woman were admitted to our outpatient department with a diagnosis of acute urticaria. All patients were in good general health and were not taking therapeutic systemic drugs. Medical history was negative for previous or concomitant allergic diseases; no inducing factors were detected. Dermatological examination showed several erythematous wheals, of different morphology and size, mainly involving the limbs. Wheals lasted for a period of minutes to four hours. Neither angioedema nor macular-papular lesions were observed. All patients complained of more or less severe pruritus. General physical examination did not reveal anything pathological, and laboratory tests were performed. Cetirizine (20 mg/day) was prescribed, and after three to seven days, all patients developed headache, weakness, arthralgia, myalgia, fever and dry cough. Laboratory examinations revealed lymphopenia and increased erythrocyte sedimentation rate. Pharyngeal swabs were positive for SARS-CoV-2. Chest X-ray was negative. All patients were followed at home by their general practitioners. The female patient was treated with azithromycin (500 mg/ day), hydroxychloroquine (400 mg/day), paracetamol (2 g/day) and cetirizine (20 mg/day). The other patients were treated with paracetamol (3 g/day) and cetirizine (20 mg/day). Remission of urticaria was observed from five to seven days later. The general clinical picture improved from three to six weeks later. All patients are currently well.

Based on the reported cases of urticaria in COVID-19 patients, no definitive conclusions may be drawn regarding association between the two disorders. However, urticaria, as in our patients, can be the first clinical presentation of COVID-19, in the absence of other symptoms and signs

Table 1. Cases of urticaria associated with COVID-19.

Reference	No. of cases	Gender	Age	Clinical manifestations
Zhang *et al.* [4]	2	NS	NS	NS
Recalcati [5]	3	NS	NS	NS
Fernández-Nieto *et al.* [6]	1	F	32	NS
Henry *et al.* [7]	1	F	27	Odynophagia, diffuse arthralgia, fever, chills, chest pain
van Damme *et al.* [8]	2	M	71	Weakness, fever, hypoxemia, chest pain, ankle pain, atrial fibrillation, tachycardia
		F	39	Fever, chills, myalgia, headache, rhinorrhoea, dry cough, dyspnoea
Bouaziz *et al.* [9]	1	NS	NS	NS
Quintana-Castanedo *et al.* [10]	1	M	61	Fever

NS: not specified; F: female; M: male.