http://dx.doi.org/10.4322/2357-9730.53886

Arteriovenous malformation associated with trauma: a case report

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Clin Biomed Res. 2015;35(2):120-121

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A 28-year-old male patient presented to our vascular surgery service with a large, pulsating, slowly progressive mass located in the left buttock. He had a history of a blunt trauma in the same region 6 years ago. Physical examination revealed a firm mass with about 10 cm in major diameter. The presence of thrill and dark purple skin areas over the lesion suggested arteriovenous malformation (AVM) (figure 1). Clinical suspicion was confirmed by CT angiography showing a rich subcutaneous vascular network associated with increased local volume, fat infiltration and identification of dilated inferior gluteal and internal pudendal arteries and ipsilateral internal iliac vein. The patient underwent a complete resection of the lesion and immediate reconstruction. The procedure was preceded by an arterial embolization of the left hypogastric artery. Reconstruction was performed with a gluteal fasciocutaneous flap with opposite pedicles (“Yin-Yang” type). The surgical specimen and the immediate postoperative result are shown in Figures 2 and 3, respectively.

Figure 1: Preoperative aspect of arteriovenous malformation.

Figure 2: Macroscopy of specimen.

Figure 3: Postoperative surgical reconstruction immediate.

There were no complications during surgery or in the postoperative recovery. The patient evolved with satisfactory esthetic and functional results.

AVMs comprise a broad spectrum of lesions classified according to their content, flow and compromised organ. The pelvis, extremities and intracranial circulation are the most commonly affected sites. The prevalence of AVM in the general population may reach 1.5%[1,2]. Approximately 90% of these malformations are recognized at birth, and the female/male ratio is 1:1[3]. Puberty and trauma can trigger their growth, the latter being the greatest responsible for non-congenital AVM[4]. A progressively growing mass with skin color changes and the presence thrill raise the suspicion of AVM. Differential diagnosis with aneurysm or arterial pseudoaneurysm has to be made. An AVM associated with trauma shows variable growth patterns, depending on the vascular supply of the lesions. Even sharp, blunt or surgical trauma may lead to the formation of AVMs[5]. There are rare cases described in the gluteal region and back.

Therapeutic options for trauma-associated AVMs did not differ from the usual treatment of congenital AVM. In cases of minor injury and without functional and esthetic compromise, clinical follow-up and observation can be considered. However, AVMs in the gluteal or pelvic region tend to be more complex, requiring, in most cases, surgical excision or endovascular treatment[1].

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Received: 03/01/2015
Accepted: 04/01/2015