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Femoral artery blowout syndrome following radical vulvectomy and radiation therapy

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CASE REPORT

A 60-year-old woman was admitted to the surgical clinic because of a repetitive minor bleeding from the wound in the left inguinal region. Radical vulvectomy with bilateral inguinal lymphadenectomy was performed six months ago due to vulvar carcinoma. The patient also underwent radiation therapy. We consulted a gynecologist and a vascular surgeon. They considered it only necessary to do a regular treatment of the wound.

On the 6th day of hospitalization there was massive bleeding from the left inguinal region. The patient lost more than 2 liters of blood in a few minutes. This was accompanied by loss of consciousness, tachycardia, immeasurable arterial blood pressure, pale skin and visible mucous membranes, dyspnoea and bradypnea. We took measures of resuscitation, strong manual compression of the left inguinal region, Trendelenburg's position of patient, endotracheal intubation and ventilation. Because of the collapse of peripheral veins and the impossibility of their cannulation, the venous approach is provided by placing an intravenous cannula of 14 gauges in the right internal jugular vein. Crystalloid and colloid solutions were applied. The patient was immediately transferred to the operating room. After induction of anesthesia, a triple lumen central venous catheter was placed in the right subclavian vein. During the operation, the patient received infusions of crystalloid and colloidal solutions, packed red blood cells and fresh frozen plasma.

The surgical procedure consisted of urgent exposure of left common femoral artery and obtaining proximal and distal vascular control. After this was accomplished, two lesions (12 × 6 mm and 7 × 4 mm) on the common femoral artery were identified (Fig. 1). Residual tumor masses around the blood court were resected. In our opinion, use of sinthetic material like tube graft or patch for repair deemed to be very risky in such hostile milleu (potential infection, pseudoaneurysm or groin limphocele formation). Common femoral artery was repaired with 2 polypropylene 5-0 horizontal mattres suture. Complete surgical treatment of the wound was done. After surgery, pulses were palpable in the arteries of the left leg. The control Doppler showed normal flows of the femoral artery. On the twelfth post-operative day, the patient was discharged from our hospital in good condition.

DISCUSSION

Arterial blowout syndrome (ABS) is considered to be a syndrome, with clinical manifestations ranging from asymptomatic to acute hemorrhage exposure artery associated in untreated cases with high mortality rates up to 60% [1, 2]. It has mostly been described in carotid arteries and has been attributed to factors associated with head and neck neoplasia, radical resection, and a history of irradiation. To date, only sporadic cases have been described in other arteries.

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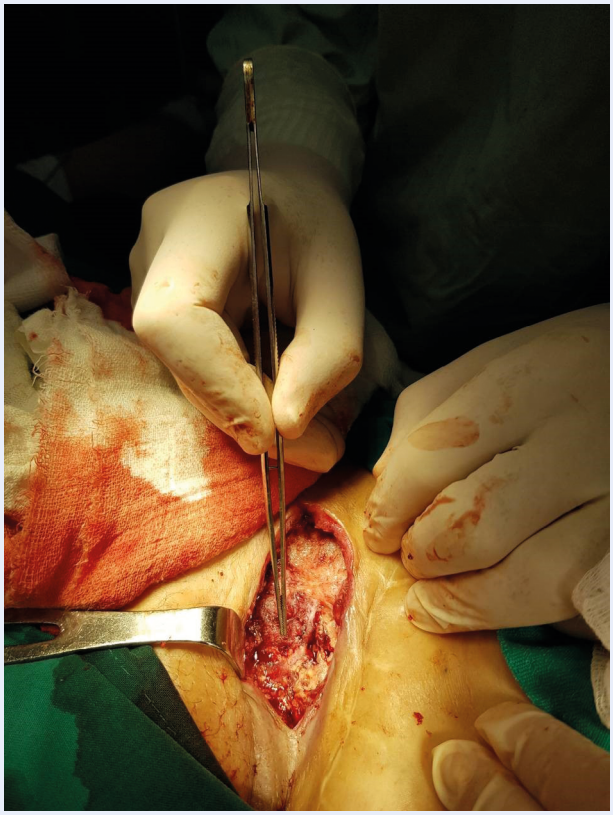

Figure 1. Lesions on the left common femoral artery — operative finding

The pathophysiology underlying ABS involves several aspects: tumor invasion of the arterial vessel causing weakening in the vessel wall, extensive surgical resection of the tissue overlying the vessel leading to loss of supportive connective tissue and a history of irradiation, with free radicals causing inflammation and increasing the risk of thrombosis of the vasa vasorum leading to breakdown of the vessel walls and fibrosis of the vessels targeted [2].

To classify the risk of hemorrhagic complication and to evaluate the urgency of intervention, a classification scheme has been developed: threatened, impending and acute arterial hemorrhage [3]. Threatened ABS relates to an artery that would invariably rupture if not promptly managed. Impending ABS presents with an episode of hemorrhage that resolves spontaneously or with simple surgical packing. This differs from acute arterial hemorrhage due to arterial perforation that is not self-limiting.

Surgical management is usually technically difficult and limited due to a previously irradiated operation site and hemodynamically unstable patients. Surgical ligation has previously been the only therapy. In recent years, however, endovascular approaches involving either parent vessel occlusion or placement of a covered stent have replaced surgery as the treatment of choice [2–5]. Although numerous surgical vascular techniques have been described in order to resolve disturbed circulation in the femoral vessels due to metastatic changes in the lymph nodes of the inguinal region, our surgical team has done the femoral artery wall suture. Such a procedure is dictated by the difficult general condition of the patient, by the lack of a vascular surgeon in the operative team (intervention performed by abdominal surgeons), by insufficient team experience to deal with such urgent vascular situations, but also by the need to quickly and effectively stop further bleeding from the femoral artery.

Article information and declarations

Conflict of interest

All authors declare no conflict of interest.

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