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SUCCESSFUL MANAGEMENT OF A TRAUMATIC SUPERFICIAL FEMORAL ARTERY PSEUDOANEURYSM WITH ACUTE LIMB ISCHEMIA

Vascular Surgery

Dr. A. Roy Christo Assistant Professor, Department of Vascular Surgery, Coimbatore Medical College Hospital, Coimbatore, Tamilnadu-641018

Dr. P. Bharathi General Surgery Postgraduate, Government District Headquarters Hospital, Pollachi - 642002.

Dr. M. Ramesh General Surgery Postgraduate, Coimbatore Medical and Hospital, Coimbatore- 641018.

ABSTRACT

Accidental trauma frequently involves the extremities, and can extend to involve their blood supply, causing exsanguinating hemorrhage and pseudoaneurysm in the involved blood vessel. Here we have a case of 16-year-old male presented with left lower extremity pain, swelling, and vascular Compromise following blunt trauma which occurred during road traffic accident. Computed tomographic angiography revealed mid superficial femoral artery pseudoaneurysm. The patient underwent evacuation of pseudoaneurysm clots, excision with vein graft patch repair and had a successful postoperative outcome. Our case illustrates importance of early identification and intraoperative challenges and its management of traumatic pseudoaneurysm when presented acute conditions.

KEYWORDS

Arterial Pseudoaneurysm, Limb Ischemia

INTRODUCTION

Accidental trauma frequently involves the extremities, and can extend to involve their blood supply, causing exsanguinating hemorrhage and pseudoaneurysm in the involved blood vessel. Vascular injuries more common following trauma and these vascular injuries lead to devastating immediate complications like life threatening bleed, limb threatening ischemia or late complications like pseudoaneurysm formation. Extremity pseudoaneurysms are developed after penetrating trauma in 60% of arterial injuries. The diagnosis depends on the high rate of suspicion by the healthcare provider, and the longer the diagnosis takes, the more complications they may have, up to loss of the limb.[1-3]

Case Report

A 16 year old male patient presented with swelling over left thigh following blunt trauma to left thigh with mid shaft of femur fracture left side. Initially patient was followed trauma protocol and proceeded with blood transfusion and CT angiogram of both lower limbs was taken which showed pseudo aneurysm in mid superficial femoral artery segment with distal reformation. On examination diffuse swelling of size 20x20cm seen in lateral aspect of left thigh, swelling was firm, tense, tender, non pulsatile with skin over it stretched and shiny (Fig:1). Distal popliteal and tibial arteries pulses were absent. Patient had reduced of left foot- toes and toe /ankle movementswasreduced at presentation seen.. With diagnosis of pseudoaneurysm of superficial femoral artery with femoropopliteal occlusion, patient was planned for pseudoaneurysm repair

Procedure

Under general anesthesia, before exposing aneurysm sac, leg fasciotomy was done, all compartmental muscles was reactile, then proximal common femoral/ superficial femoral arteries and proximal popliteal arteries were exposed and controls taken. Longitudinal incision made over the medial aspect of thigh and incision deepened. Pseudoaneurysm sac arising from mid superficial femoral artery measuring 2 x 2 cm was found with distorted tissue planes with large intramuscular haemtoma due to fracture segments bleeding. With clamping of both proximal and distal arteries, pseudoaneurysm was opened and rent in the artery was repaired with great saphenous vein patch using 6-0 prolene, thorough wash given (Fig: 2).

Good distal flow secured. Wound closed in layers with drain. Patient has two units of blood transfusion perioperatively even with above measures. Postoperative period uneventful and patient discharged after split skin grafting of fasciotomy wound. patient had residual neurological deficit with foot drop for which foot drop splint was advised. limb was viable at discharge.

Figure- 1: Pre Op CT Angiogram Showing Injury in MID SFA Region with Pseudoaneurysm

Figure- 2: Post Op Picture of Operated Limb

DISCUSSION

Accidental trauma involving the extremities is becoming more common due to its connection with increasing social violence. The resultant arterial injuries can cause life-threatening bleeding, hematoma, distal ischemia due to thrombosis, laceration or disruption of the lumen, pseudoaneurysm formation or an arteriovenous fistula in involved segments. The detection and definition of vascular injury by angiography is essential for its optimal management [4-5]. A pseudoaneurysm is a contained arterial disruption involving the intimal and medial layers of the arterial wall. It can originate from a perforation by traumatic or iatrogenic injury, or can result from dehiscence of a surgicalanastomosis. Pain is the most frequent complaint. Swelling, presence of a pulsatile mass, and paresthesia of the involved area can be variably present based on the location. [6,7] traumatic aneurysm is developed by the partial or complete absorption of the periarterial hematoma at a fibrous sac level which is surrounded by the adjacent tissue. In general, the term "traumatic aneurysm" is utilized to refer to pseudoaneurysms, whether they are acute or chronic. Pseudoaneurysms must be treated as soon as possible, because of their risk of rupture or thrombosis. [7,8] Thigh pseudoaneurysms are relatively rare, and usually result from direct injury to an arterial branch.Large sized pseudoaneurysm are common in distal superficial femoral artery, owing to deep seated location of in thigh.[4] These superficial femoral artery pseudoaneurysms are difficult to manage especially when presented late and as large ones. Because of deep seated location, no bony prominence for compression of bleed and artery course changes from medial to posterior in lower thigh along with distorted anatomy due to chronic nature and large mass displacing vital structures. In our case we faced all these challenges introperatively but with clear CT angiography images with thorough knowledge of lower limb anatomy with anticipation of above problems we were successful in managing this case.

CONCLUSION

Thus best way to manage superficial femoral artery pseudoaneurysm is early intervention and successful revascularization for limb salvage and to reduce the morbidity and mortality of the patient.

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