



Bilateral Osteochondromas Associated Acute Limb Ischemia in A Young Adult. Case Report

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Abstract

Osteochondromas, also called osteocartilaginous exostoses are the commonest benign bone tumors and are usually asymptomatic. The age of presentation for vascular complications is usually in the second decade of life, and most cases identified involve men. The most common sites for these tumors are the distal femur, proximal humerus, and proximal tibia. Vascular complications include displacement of surrounding vessels, stenosis or occlusion, arterio-venous fistula formation, and development of false aneurysms, although there are also reports referring to true aneurysms and acute limb ischemia. The risk of occlusion of distal vessels by peripheral thromboembolism is a major complication as well. Here we present a young adult suffering a limb threatening ischemia that was dealt with vascular interference and excision of the lesion and prophylactic removal of the other bony osteochondroma in a later session and the patient follow up was free of any complication. The age of presentation for vascular complications is usually in the second decade of life, and most cases identified involve men.

Keywords: Limb; Adult; Osteochondroma

Introduction

Osteochondroma is one of the commonest benign bony tumors that affect the young adults with incidence between 1 and 2 % of population and it is usually asymptomatic [1] these tumors usually located at lower end of femur, upper end of tibia (around knee joint), and upper end of humerus [2]. Mostly osteochondromas are asymptomatic and it is discovered accidentally during examination or plain X rays for other purposes. Vascular complications of such lesions include arterial ischemia, venous thrombosis or arterial pseudoaneurysm [3,4]. Ossifications of the cartilaginous cap of osteochondroma occur in young adults in the second decade, this leads to appearance of clinical manifestations at this age group. Arterial complications more than venous injuries, and it is usually due to stretching or compressing the arterial wall. The popliteal artery in the supra genicular part is fixed between the Hunter's canal proximally and the tibial trifurcation distally. That is why it is liable for injury at this region by adjacent osteochondromas [5].

Case Presentation

21 years old male patient presented to our clinic by right lower limb acute pain dated since 2 days accompanied by limping and inability to walk properly. Medical history from the patient was irrelevant, nonsmoker, no history of trauma. On examination the patient showed signs of acute right lower limb ischemia with visible presentation, there is palpable right femoral artery with absent pulsation at right popliteal artery and distally. Skin was bluish in color with intact sensation and motor function. The left lower limb showed palpable distal pulsations at dorsalis pedis artery and posterior tibial artery. The pulse was regular with no suspicion for rheumatic heart or valvular lesion. So a localized lesion in popliteal artery was thought about as entrapment or popliteal artery thrombosed aneurysm. We asked for the duplex examination which revealed arterial thrombosis at supragenicular popliteal artery, with no detectable aneurysm (Figure 1). The flow on the anterior and posterior tibial artery was monophasic. So we decided to start an-

ticoagulation and asked for urgent CTA for more information. CTA showed acute arterial occlusion at supragenicular right popliteal artery with distal refilling of anterior and posterior tibial vessels distally. The surprise was the presence of osteochondroma bilaterally, we asked also for plain X-ray at different positions which showed cartilaginous osteochondroma at the right side. (Figure 2), so the plan was direct exposure over the site of osteochondroma with cooperation with an orthopedic surgeon.

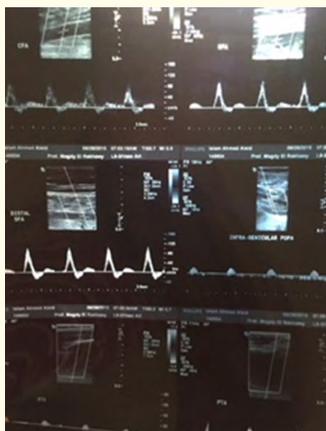


Figure 1: Duplex examination showing thrombosis in the distal superficial femoral artery.

Exposure of distal superficial femoral and popliteal artery supra-genicular was done, by securing the vessels, orthopedic surgeon started to remove the osteochondroma. After removal the artery was opened and thrombectomy was done. Small area on intimal roughness at the site of thrombosis was detected, so we decided to remove this small segment with primary end to end anastomosis.

The flow was good distally, postoperative duplex and CTA was done which detected normal flow at right lower limb. Good postoperative recovery was noticed without any postoperative complications. (Figure 3).



Figure 2: Plain X Ray showing right lower femur osteochondroma.



Figure 3: Postoperative angiography after removal of the right osteochondroma and arterial reconstruction with good distal flow.

During follow up visits, the patient was concerned about the osteochondroma at the left lower limb, 6 months later it was decided to be removed as the patient was very anxious about its presence.

Discussion

Acute limb ischemia is rare event in young adults and children in absence of trauma. For this reason diagnosis is usually delayed and difficult to reach the precise cause. In this age group we should think about hypercoagulable states, rheumatic or congenital cardiac diseases. Or local causes such as popliteal artery entrapment or localized bony tumors. In our case after clinical examination and acute ischemia was confirmed, we asked first for duplex examination to exclude localized lesions such as thrombotic aneurysm, there is no time in emergency for laboratory studies for hypercoagulable states which can be done after the emergent interference. We thought about popliteal entrapment as it is the commonest localized lesion affecting this area, but surprisingly after CTA we discovered the presence of osteochondroma at lower end of femur bilaterally. (cartilaginous at right side, the presenting limb, and bony at the left side, (Figure 1).

MRI is the investigation of choice to detect the musculoskeletal abnormalities at certain region, if bony or muscular compressing agent is suspected in our case the compressing agent was seen accidentally while examining by CTA, so there was no need for further evaluation by MRI and plain X-ray detect more precisely the presence of exostosis [7].

Exostosis is common bony tumor which does not necessitate any interference of surgical removal unless it is complicated in our patient we removed the right side osteochondroma during vascular exposure after 6 months we removed the non-complicated left side

ed exostosis for patient's well, as the patient become very anxious about the left side and had fear of complications and limb loss. so we decided to remove the other side [6].

Although endovascular thrombolysis is an option to overcome the acute, we decided to adopt the open surgical treatment to overcome the compressing agent and long term patency of the surgical procedures as the patient is young age [6].

Conclusion

Ossifications of the cartilaginous cap of osteochondroma occur in young adults in the second decade, this time of adolescence may be crucial and any clinical manifestations at this age group, whether arterial or venous symptoms or signs should be taken seriously, and a simple investigation could be enough to save much money later on and can prevent limb and consequently life loss, Finally any incidentally discovered or even previously diagnosed osteochondroma should be removed specially those near important neurovascular bundles.

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