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Vascular Surgery

Hypertrophy of the Left Lower Member Revealing Arterioveinous Fistula Acquired in an Infant

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Abstract **Case Report**

Post-traumatic FAV are a rare clinical entity in civilian practice, they are increasingly iatrogenic, we report the case of a 2-year-old infant who presented with a left femoral catheterism an hypertrophy of the lower left limb, the angioscanner Diagnosed the femoral FAV and the infant received a surgical treatment of his FAV with good clinical course.

Keywords: Hypertrophy of limb; acquired FAV.

INTRODUCTION

Acquired arteriovenous fistulas (FAVA) are mostly traumatic and increasingly iatrogenic. Their most frequent location is at the level of members. Blood flow through the fistula has pathophysiological and Severe hemodynamics, both local and general. They are a rare clinical entity in civilian practice, the military conflicts providers of this type of lesions have made it possible to lay down the modalities of their care.

OBSERVATION

We report the case of a 2-year-old child with a history of neonatal resuscitation 3 months after birth for severe pneumonitis requiring the administration of vasoactive drugs by a central route taken at the left scarpa level with good Response to treatment, the evolution was marked by the gradual increase in the volume of the lower left limb, which motivated a consultation.

Initial clinical examination found a healthy eupnetic fetus with an inferior lower limb frankly hypertrophic compared to the contralateral side, palpation finds a hot limb, all pulse are perceived with a tremor on the left scarpa and an audible trill Auscultation. The FAV was well tolerated on the hemodynamic plane notably no signs of heart failure.

An angio-scan was requested and showed a venous artery fistula between the femoral artery and the common femoral vein (FIG. 1)

The child was operated on by the left scarpa approach, dissection and control of the artery and the vein upstream and downstream of the communication (Figure 2). After general heparinization and clamping, the fistula was flat, the vein was repaired by lateral suture type blalock and the artery by points separated by prolene 7/0 (FIG. 3).

The operative follow-up was simple and the child left the hospital on the 3rd day.

Follow-up at 3 months, 6 months and 1 year was satisfactory, in particular a regression of the volume of the lower left limb.

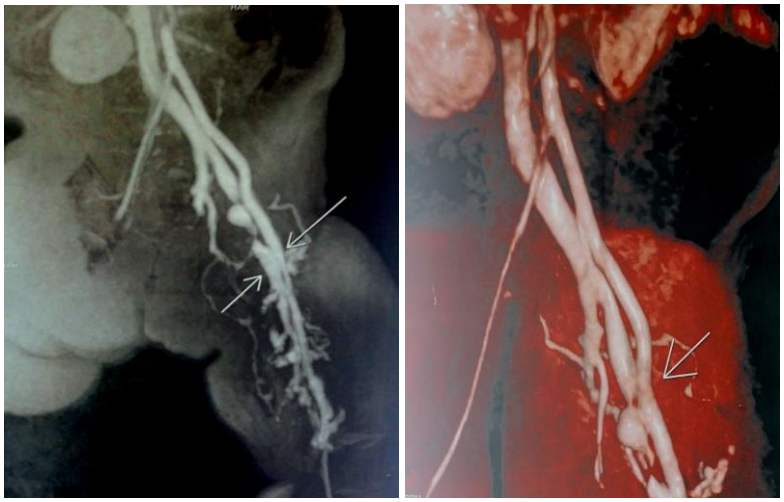

Figure 1: Angioscanner aorta and left lower limb showing arteriovenous communication between the common femoral artery and the left femoral vein

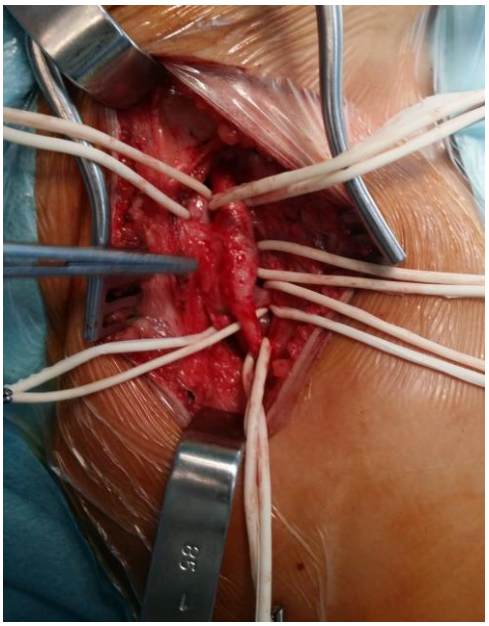

Figure 2: An intraoperative view of the left scarpa showing acquired arteriovenous fistula

Figure 3: Operative view of FAV acquired after surgical repair

DISCUSSION

Post-traumatic FAVs were described for the first time by Hunter in 1762 [1]. The most important studies are of military origin and originate from major conflicts [2,3]. White-armed wounds associated with trauma penetrating by small-caliber projectiles are FAV providers, as the losses of substances are less compared to lesions by high-velocity flashes or projectiles complicated with hemorrhage.

Currently, iatrogenic trauma is the most common cause of arteriovenous fistulas.

- Arterial catheterization. Ricci et al. [3] Reported a rate of 0.5% on 7690 cardiac catheterizations. Additional angioplasty appears to increase this risk.
- Ligature in "mass" of an artery and a vein: the fistula can be constituted on the pedicle
- Renal after nephrectomy, on the splenic pedicle after splenectomy or on the pedicle
- Uterus after hysterectomy and on the portal pedicle after gastrointestinal surgery.
- The biopsy of the organs. Arteriovenous fistulas are the most frequent. Fistula after breast biopsy have been reported [4].

Symptoms vary: pulsatile tumefaction with scars, quivering, atypical intermittent claudication, high-flow heart failure symptoms with a history of trauma [5].

For FAVA of the limbs, there is a chronic venous insufficiency with edema, dermatitis of Stasis, ulcerations, tissue and bone hypertrophy and enlargement of the limb. The Pulsatile varicose veins may exist downstream of the fistula. The limb is pale with decreased pulse or Absent. The compression of the proximal artery makes the pulse reappear or increase. The differential Can be enlarged with eventual decrease in heart rate during the compression of the fistula (the sign of Branham). The patient may be in congestive heart failure. [5]

Arterial Doppler can be an important aid to diagnosis, it highlights the increase in velocity at the level of the upstream artery and the arteriovenous communication with a pulsatile flow at this level [6] Remains a dependent operator examination and can not accurately explore the topography, resonance and shape of the lesion.

Arteriography allows the study of the anatomy of the fistula, it provides a mapping of the lesion and also has the advantage of allowing in some cases a therapeutic gesture, however it does not allow the diagnosis of false thrombosis aneurysms nor l Exploration of adjacent structures.

The angioscanner, or at best MRI, makes it possible to detect false aneurysms, topography, the shape of the lesion and make it possible to study the relationships with the neighborhood structures, in addition MRI allows to study the different flows Of the FAV [7].

Surgery is the treatment of choice consisting of the isolation of the vessels fed by the FAV, the disconnection of the latter and finally the restoration of the vascular continuity either by simple suture, termino-terminal anastomosis or by a veinous bypass surgery. Venous repair is paramount in order to avoid distal venous insufficiency [8].

Arterial embolization is a safe and effective therapeutic alternative when lesions are diffuse or difficult to localize [9].

Endovascular treatment by endo-prostheses or covered stent is a minimally invasive technique which has the advantage of preserving arterial and venous continuity but the long-term results remain insufficiently evaluated and poses the problem of the installation of foreign material In a septic atmosphere [10].

CONCLUSION

Regardless of the nature of the treatment, patients should be monitored for possible aneurysmal degeneration. Surgical treatment remains the indication of choice with good results. Restorative surgery of peripheral FAVA has good long-term results. However, the decline in the endovascular series is still insufficient and the long-term success rate is not yet established for all the locations and for all the materials used. Thromboses Late prostheses, even asymptomatic, are reported [11,12].

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