ANEURYSM OF PERSISTENT SCIATIC ARTERY WITH ACUTE LOWER LIMB ISCHAEMIA – COMBINED HYBRID APPROACH IN MANAGEMENT

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INTRODUCTION

• Persistent sciatic artery (PSA) is a rare congenital vascular anomaly.
• Incidence: 0.03-0.06%
• Mostly unilateral
• Bilaterality 12%
• Sciatic artery – branch of umbilical artery supplying lower limb
• Regresses in third month of embryonic development
• Failure of sciatic artery to regress - PSA
• Complications:
  - atherosclerotic degeneration → aneurysmal dilatation
  - occlusive thrombosis
  - embolic phenomena.
ANATOMY

A
- Umbilical artery
- External iliac artery
- Sciatic artery
- Foot plexus

B
- Common iliac artery
- External iliac artery
- Sciatic artery
- Deep femoral artery
- Popliteal artery

C
- Common iliac artery
- Internal iliac artery
- External iliac artery
- Sciatic artery
- Deep femoral artery
- Superficial femoral artery
- Popliteal artery
- Anterior tibial artery
- Posterior tibial artery
- Peroneal artery

Rutherford Textbook of Vascular Surgery
TYPES OF PSA

- **Complete**
  - Sciatic artery direct communication between internal iliac artery and popliteal artery.
  - Superficial femoral artery hypoplastic communicates with popliteal artery through collaterals.

- **Incomplete**
  - Sciatic artery partially involuted, hypoplastic communicates with popliteal artery through collaterals.
Persistent Sciatic Artery Aneurysm

- PSAA first described in 1864.
- PSA is associated with aneurysmal formation in 15-46% of cases.
- Diagnosis when clinical complication present.
- Frequent clinical finding in PSA is lower limb ischaemia
- Can occur in 63% cases (maldini et al)
CASE REPORT

- 58-year-old male
- History
  - left buttock mass
  - sudden onset of left foot pain
- Clinical examination
  - Pulsatile buttock mass
  - Grade 1 limb ischemia.
Diagnosis

MR Angio

- partially thrombosed PSA aneurysm.
- thrombus in the distal part of pedal arteries.
- type 2- complete PSA with incomplete SFA.
MANAGEMENT

• Hybrid procedure
  - left popliteal thromboembolectomy.
  - retrograde stent grafting of PSA aneurysm.
• Approach
  - Medial exposure of above knee popliteal artery.
• 2/3 Fr fogarty used for distal embolectomy
  Retrograde Stent Graft (12 × 70 wall graft) to aneurysm.
PSA ANEURYSM / STENT DEPLOYMENT
STENT PLACEMENT
DISCUSSION

• PSA mostly asymptomatic.
• Detection – accidental or secondary to complications.
• Aneurysmal degeneration – most common complication.
• Most frequent clinical finding - lower limb ischemia.
• Treatment:
  - **Incomplete PSAs** – exclusion of aneurysm with simple ligation or embolization.
  - **Complete PSAs** – complex bypass.
  - **Endovascular** - antegrade or retrograde safe and efficient.
CONCLUSION

- Diagnosis demands a high level of suspicion

- Although encountered rarely, an anatomic variation of the vessels might be troublesome for the surgeon
1. Endovascular Stent Graft Repair of a Persistent Sciatic Artery Aneurysms

2. Endovascular treatment of persistent sciatic artery aneurysm with the multilayer stent.


4. Endovascular repair of a persistent sciatic artery aneurysm.

5. Ruptured persistent sciatic artery aneurysm managed by endovascular embolization.

6. Endovascular Repair of Injury to a Persistent Sciatic Artery

THANK YOU
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