QENDRA SPITALORE UNIVERSITARE
"NËNË TEREZA"

RIGHT ARM **COMPARTMENT SYNDROME** IN HEMODIALYSIS PATIENT WITH A CONTAINED PSEUDOANEURYSM OF **BRACHIO-BASILIC FISTULA**

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INTRODUCTION

- Arm compartment syndrome is a devastating upper extremity condition where the osseofascial compartment pressure rises to a level that decreases perfusion to the hand and forearm and may lead to irreversible muscle and neurovascular damage.
- The purpose of this case report is to document evidence that injury of a arteriovenous fistula can cause compartment syndrome of the ipsilateral arm and risk of limb loss.

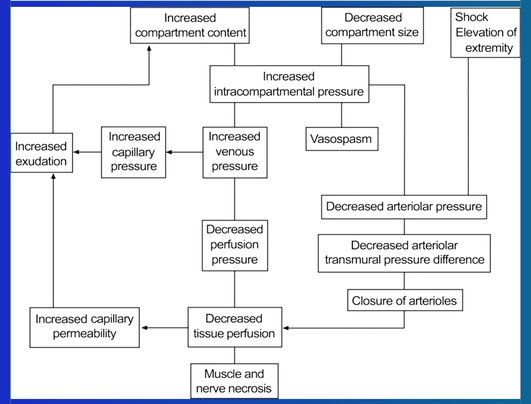
CAUSES

- Traumatic causes included
  - Bone fracture;
  - Crushing injuries;
  - Vascular injuries;
- Non-traumatic
  - Pneumatic tourniquet at the upper arm;
  - Prolonged extremity immobilization;
  - Soft tissue infection;
  - Myositis;
  - Other processes that can lead to muscle necrosis

DIAGNOSIS, TREATMENT

- Clinical presentation;
- Measurement of compartment pressure;
- Examinations;
- Decompression fasciotomi;

PATHOPHYSIOLOGY



CASE REPORT

- A 62 year old man patient experienced pain, severe arm edema, numbness of the hand, hematoma of the right arm after cannulation of the right brachio-basilic fistula and a subsequent hemodialysis session.
- Signs and symptoms were present for approximately 24 hours before presenting in the emergency department.
- The diagnosis was made clinically and confirmed with angi-CT of the right arm.

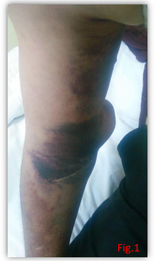


Fig.1

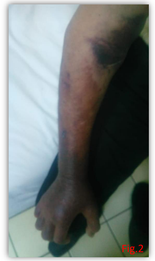


Fig.2

CLINICAL PRESENTATION

- He showed:
  - Severe pain;
  - Significant upper right arm,
  - Forearm and hand swelling;
  - Hematoma of the arm;
  - Forearm phlyctenas;
  - Hand cyanosis;
  - No palpable distal pulses;
  - Paresthesia and paresis of the hand and forearm;
  - Thrill present a the basilic vein trajectory;

EXAMINATIONS

- Computed tomography angiography (CTA) indicated pseudoaneurysm of the basilic vein with active contrast extravasation, Fig.3
- A large hematoma of the arm anf forearm, Fig.4
- Filiform perfusion of proximal radial and ulnar arteries.
- No distal contrasting of the ulnar and radial artery

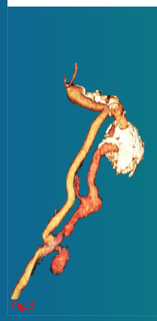


Fig.3

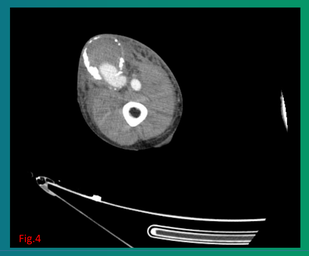


Fig.4

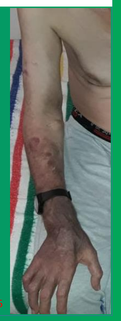


Fig.5

INTERVENTION

- Infraclavicular incision. Isolation of right subclavian artery. Clamping of the right subclavian artery;
- 20 cm longitudinal anteromedial incision in the upper arm;
- Proximal and distal ligation and excision of basilic vein;
- Hematoma evacuation;
- Decompression of the anterior compartment of the upper arm;
- Drainage and primarily closure of the wound;

FOLLOW UP

- The patient was dischared on the 5th postoperatory day in good health. The hand and forarm were still edematous with low sensibility and mobility. Present palpable radial and ulnar pulses.
- After 2 months, no arm edema, palpable distal pulses, minor neurologic deficit of the hand. Fig. 5;

CONCLUSIONS

- Compartment syndrome is a well-known surgical emergency with high morbidities resulting in potentially long-term debilitation .
- While compartment syndromes are not unusual, occurrence in certain parts of the body, such as the arm can be extremely rare resulting in delayed diagnosis or mismanagement.
- Hence, an immediate recognition can lead to early management and much better outcome
- Upper arm and forearm compartment syndrome can lead to significant sequelae including:
- severe limb ischemia requiring amputation
- contracture development;
- severe nerve injuries including permanent motor and or sensory deficits

LITERATURE REVIEW

Chin-Ta Lin[1], Niann-Tzyy Dai[1], Shyi-Gen Che[1], Shun-Cheng Chang[2].

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