

VASCULAR TRUAMA

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Introduction

Vascular injury has two main consequences - haemorrhage and ischaemia. Or, in the words of an anonymous Czech surgeon, "Bloody vascular trauma - it's either bleeding too much or it's not bleeding enough".

Pathophysiology

Hemorrhage is the prime consequence of vascular injury. Bleeding may be **obvious**, with visible arterial hemorrhage, or it may be **concealed**. Ischemia results from an acute interruption of flow of blood to a limb or organ. Oxygen supply is inadequate to meet demand and anaerobic metabolism takes over, producing lactic acidosis and activating cellular and humoral inflammatory pathways. If the arterial supply is not re-established in time, cell death occurs.

*COMMON
SURGICAL
EMERGENCY THAT
OCCUR DURING
CIVILIAN OR WAR*

*1. penetrating trauma:-
commonly due to sharp
material or tools like stab
wound, gun shoot wounds*

2. blunt trauma :-

by blunt or

heavy objects

3.iatrogenic

*Started to increase due to increase
the interventional procedures.*

*Types of arterial
injuries:-*

A-complete transection.

B-arterial laceration.

C-arterial contusion.

*Management of
vascular trauma*

HISTORY

*PHYSICAL
EXAMINATION*

- A ensure clear air way*
- B check the effectivity of breathing*
- C circulation or hemodynamic state*
- D cheking the disability by GCS*
- E exposure and examination from head to toe*

HADR SIGNS:

- 1-Hematoma or expanding hematoma*
- 2-revealed bleeding either this is venous or arterial bleeding,*
- 3-bruit or thrill sound of the blood flow,*
- 4-distal limb affection (acute ischemia)*

Hard signs of Vascular Injury

Pulsatile bleeding
Expanding haematoma
Absent distal pulses
Cold, pale limb
Palpable thrill
Audible bruit

The presence of hard signs of vascular injury mandates immediate operative intervention. Usually the site of injury is obvious, and angiography is unnecessary.

INVESTIGATIONS:

Diagnostic Adjuncts

Pulse Oximetry

Doppler Ultrasound

Duplex Ultrasound

Angiography

Treatment

1-Immediate Haemorrhage Control

A digital pressure.

B packing and bandaging.

C use of tourniquet.

D vascular clamping.

E intravascular balloon inflation

2-Volume resuscitation

There are two phases in the resuscitation of patients with vascular injuries - before and after haemorrhage control.

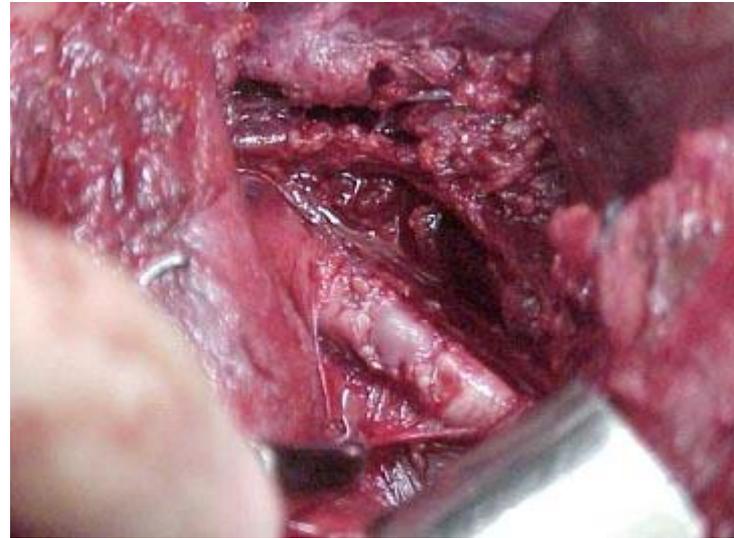
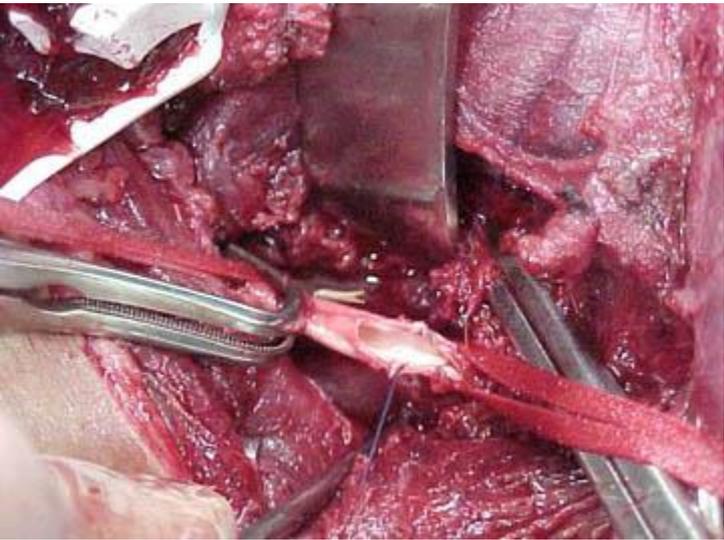
Prior to haemorrhage control, minimal fluids should be administered.

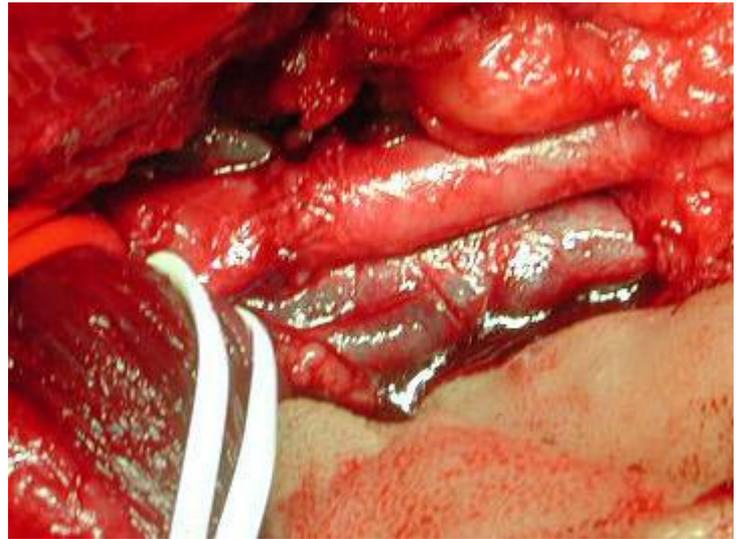
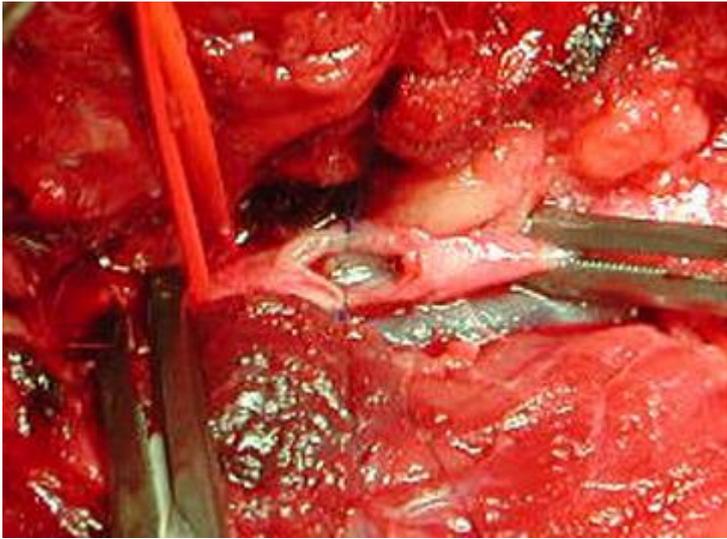
Raising the blood pressure will increase haemorrhage from the vessel injury and dislodge any clot that has already formed.

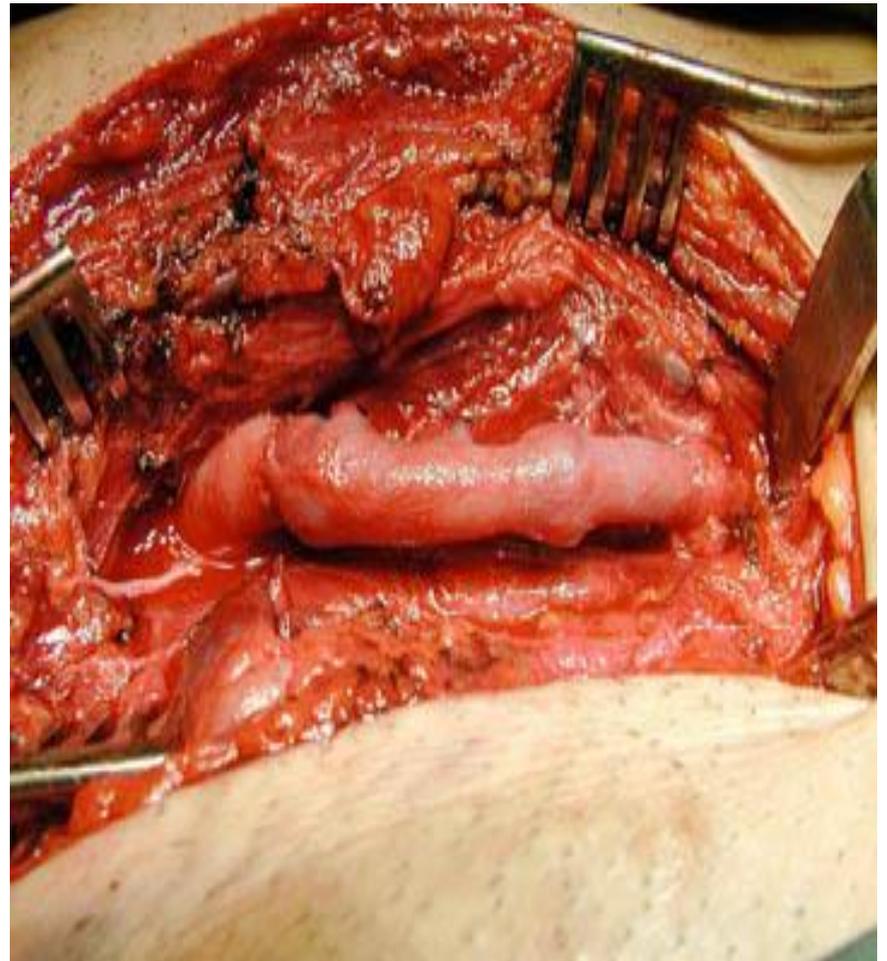
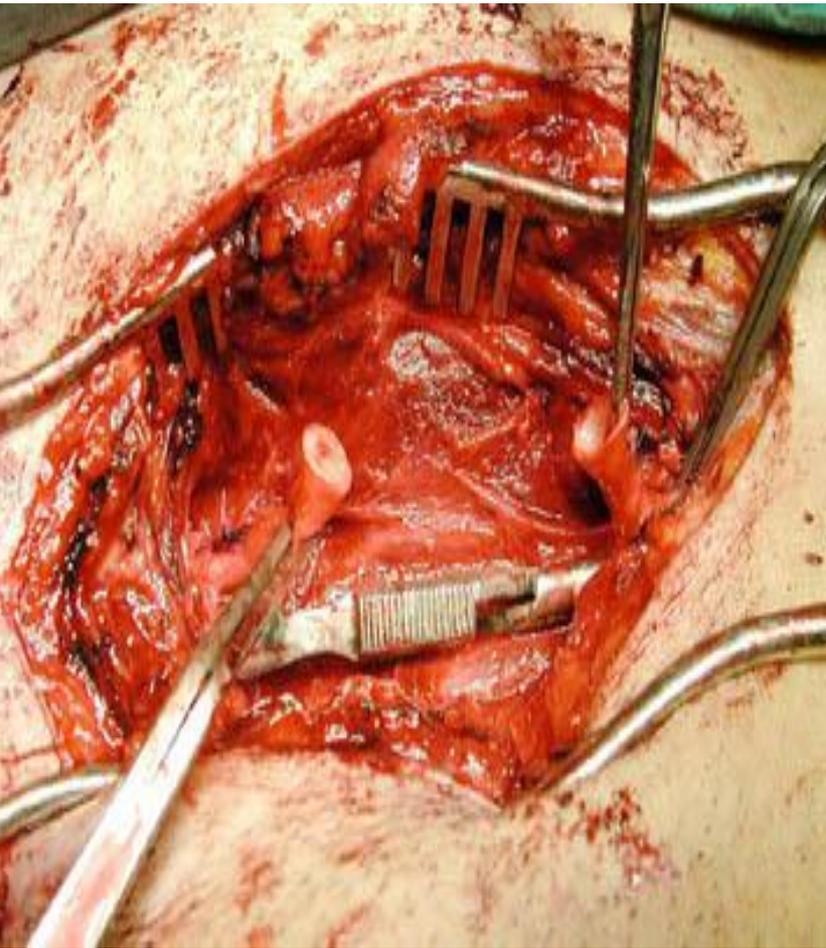
The patient cools as more cold fluids are administered.

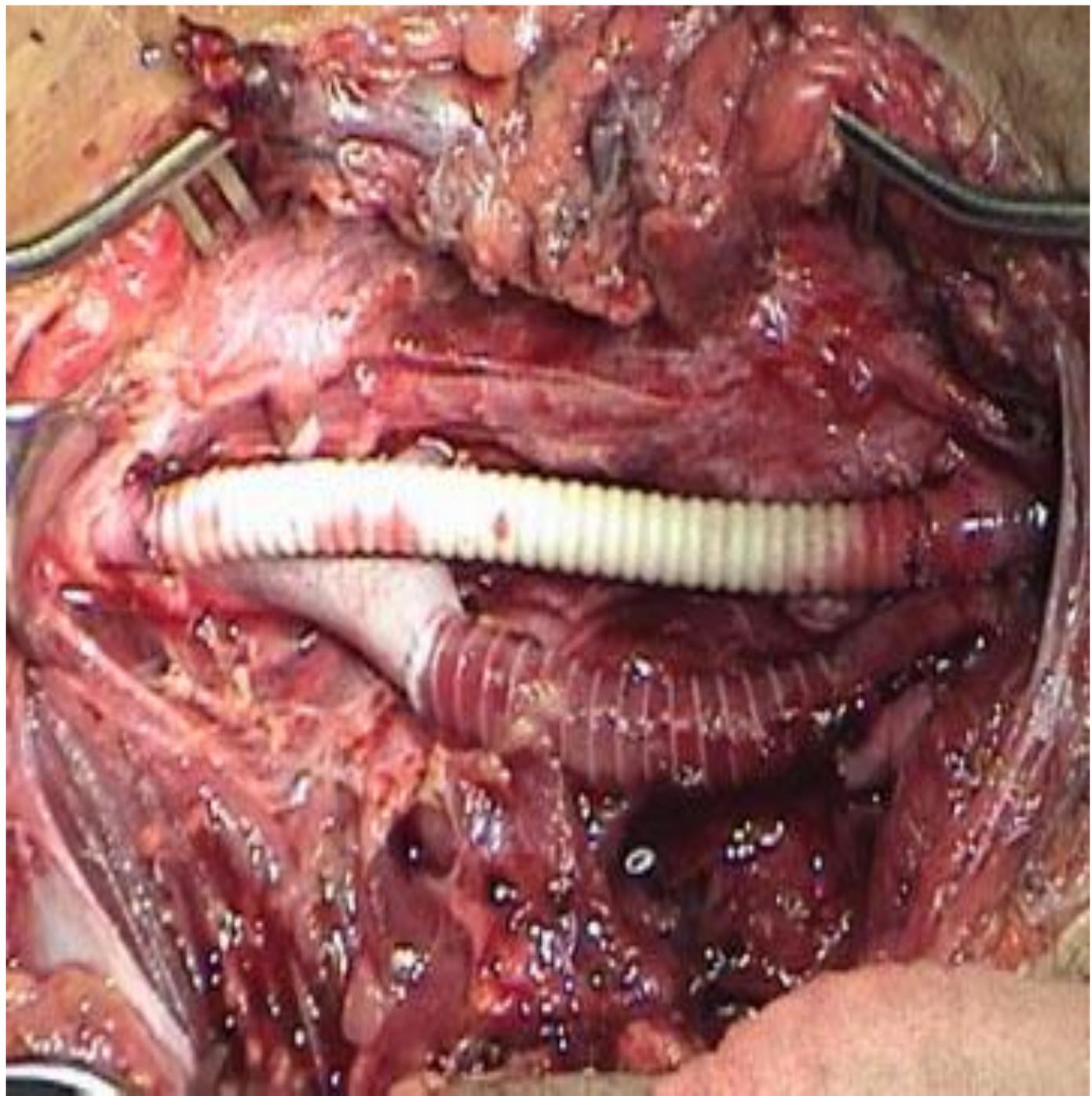
3-Operative Strategy

The patient is positioned on the operating table to allow on-table angiography of the affected region and distal perfusion.









FASCIOTOMY :-A. combined arterial and venous injuries.

B. massive soft tissue damage.

C. delayed vascular repair (prolonged ischemia).

D. prolong hypotension & shock(hypoperfusion).

E. excessive swelling or high tissue pressure.

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VASCULAR SURGERY

Acute
ARTERIAL
OCCLUSION



*translocation and dislodgment
of material within the arterial
blood stream to more distal
sites, resulting in acute
interruption of blood supply*

CUASES OF:-

- Cardiac cuases (systemic) •
- Aneurysmal (local) •

Clinical evaluation:

*In acute embolism
the symptoms are of sudden onset.....
The cardinal signs of ischemia described as*

ps;

*Pain ,pulse less, pallor ,parasthesia
,paralysis,poikilothermia.*

Treatment:-

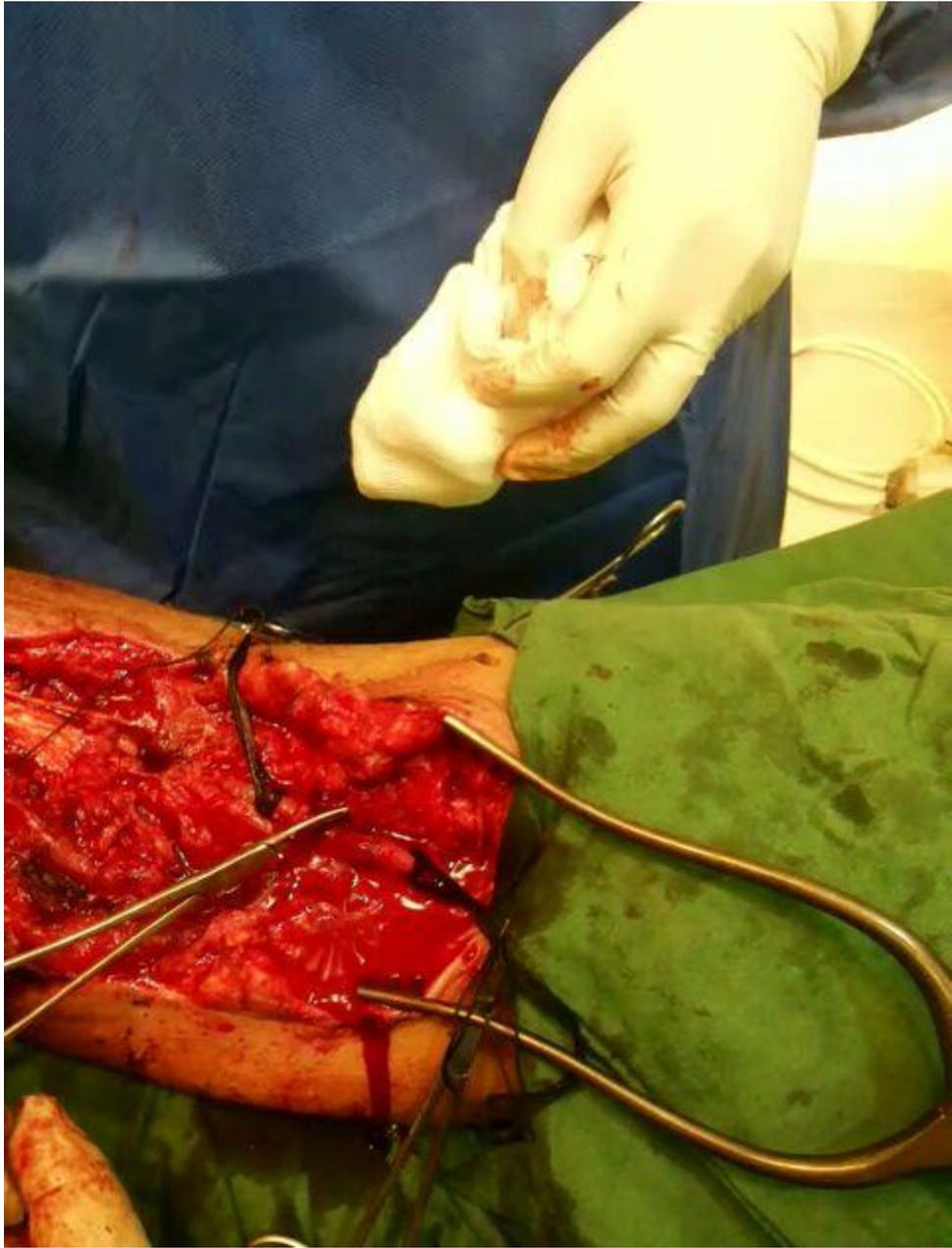
*This condition is
emergency surgical condition*

Supportive

Operative(GOLDEN HOURS)

Surgical procedure including incision on the groin and open the femoral artery ,passing embolectomy catheter to remove the clot from the artery.

Some times bypass graft surgery needed in cases of inadequate thrombo-embolectomy. The thrombogenic agents are materials can dissolve the clot completely or partially may be used to dissolve the rest emboli which are small or un accessible for surgery e.g. streptokinase or urokinase.



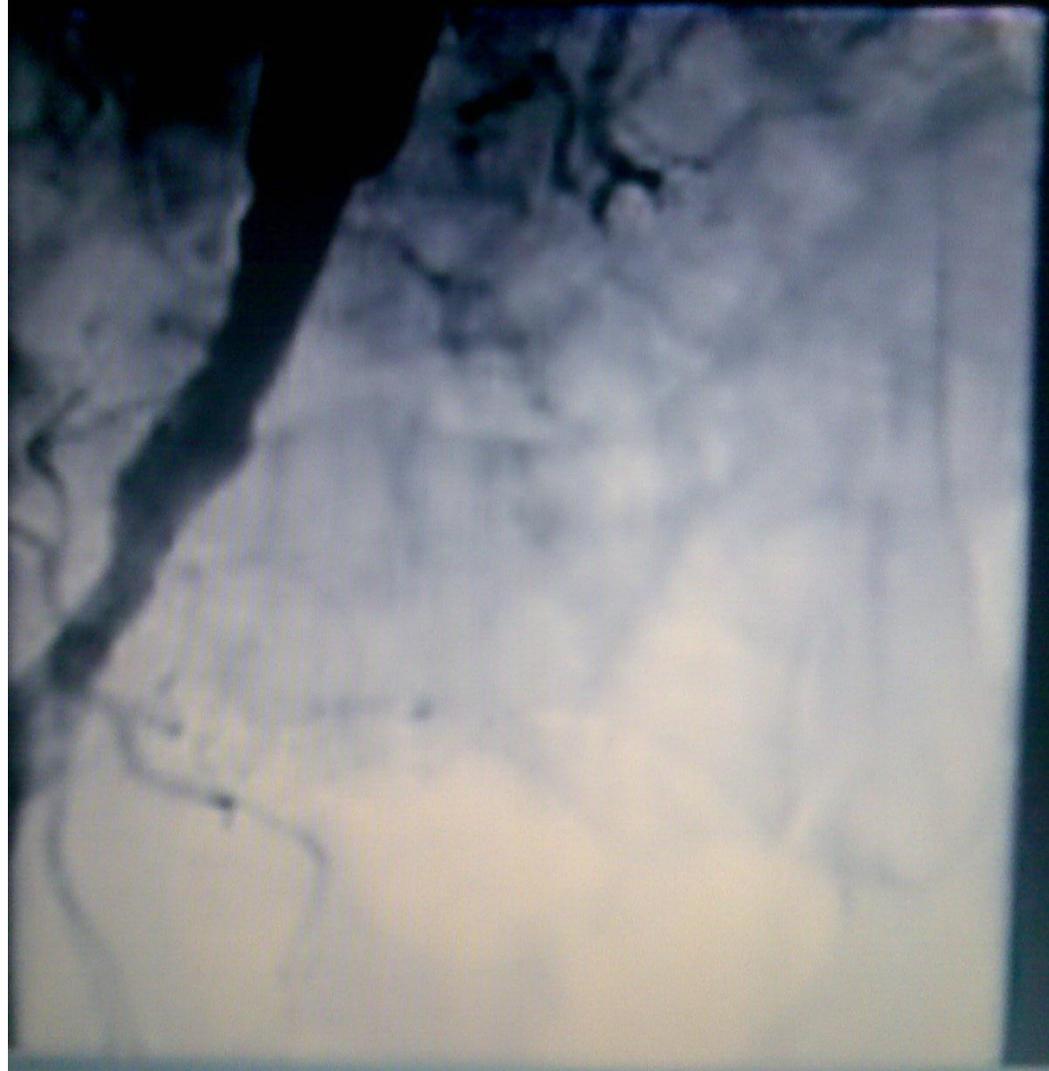




AORTO-ILIAC DISEASE

(Larrieche disease)

This image is not intended for clinical or other diagnostic use.



INFRA-INGUINAL OCCLUSION

Non-atherosclerotic vascular occlusion

1-external compression
(T.O.S)

2-Vaso-spastic

Vaso-spastic disorders:-

Ryenoides disease:-it is a symptom complex •
associated with peripheral vasospasm which
either due to irritation by external stimuli or
an auto immune disease process.

BURGER DISEASE(THROMBO-ANGITIS OBLITERANCE) •

Inflammatory vasculopathy involve medium •
sized &small sized arteries

Superficial viens may be affected . •