

# BLEEDING NECROSIS AT PUNCTURE SITE: a simple stitch is not enough?

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## Disclosure

Speaker name:

..Bourquelot Pierre.....

- I have the following potential conflicts of interest to report:
  - Consulting
  - Employment in industry
  - Shareholder in a healthcare company
  - Owner of a healthcare company
  - Other(s)
- I do not have any potential conflict of interest

# Exsanguination is a major risk



- 2011 Gill: NYC, 01/2003 to 08/2011, 100 deaths due to hemorrhage from a hemodialysis AV-A, 81% at home.
- 2012, Ellingson : 88 deaths from bleeding
- Potentially underestimated
- All pts bled previously

# Outpatient dpt



# Radiology dpt



# Temporary suture

- Of course the patient will bleed again



# O.R.



# O.R.-> Tourniquet

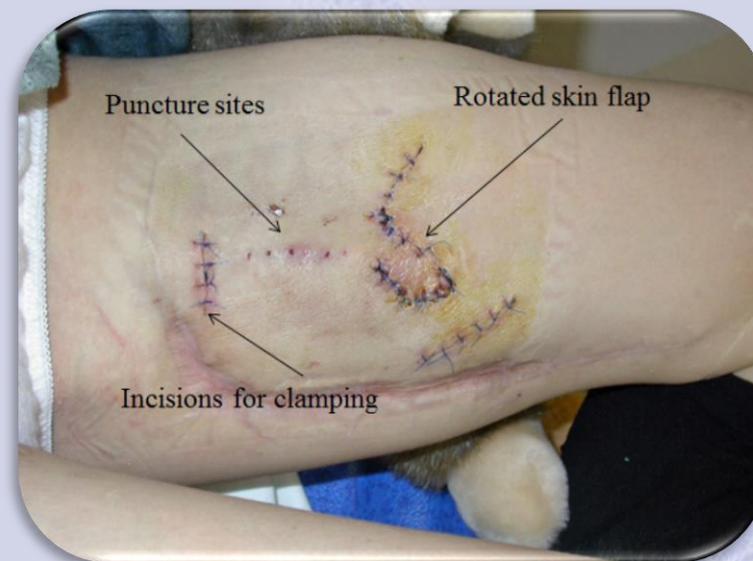


# Hemaclear or Surgical clamps

## Hemaclear® (narrow tourniquet)



## Surgical clamps (separate incisions)



# Treatment

- Fistula ligation: if infection, or necrosis > 20 mm
- By-pass graft: risk of infection
- Skin mobilisation and suture, combined with aneurysm reduction
- Advancement flap
- Rotation flap: Limberg flap

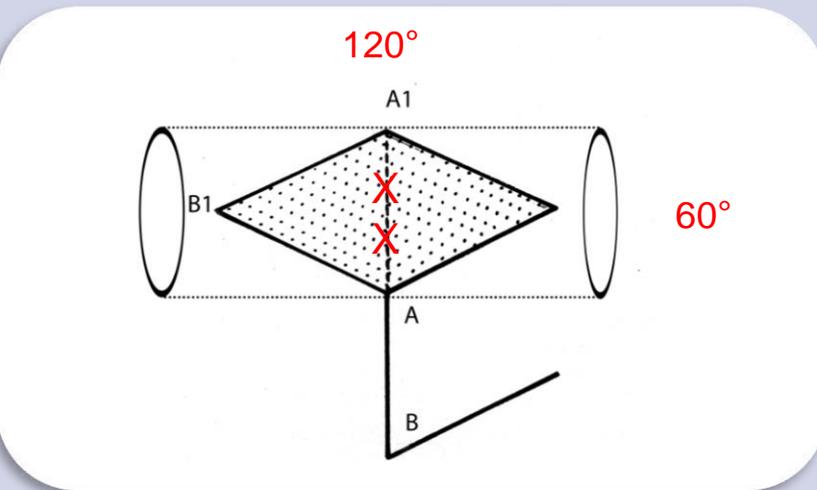
# Advancement flap



# Limberg flap (1963)

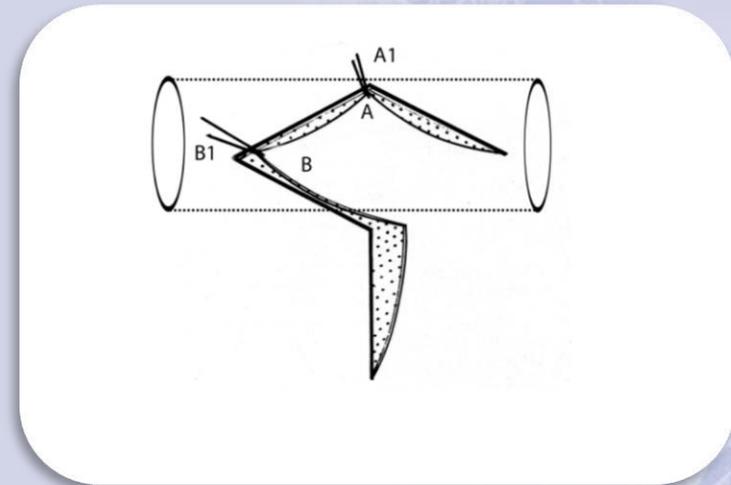
Local full-thickness rotated flap

Diamond-shaped excision of necrotic tissues + vessel suture



Length of every incision equal the small diagonal

Rotation of the flap



# Before release of tourniquet!

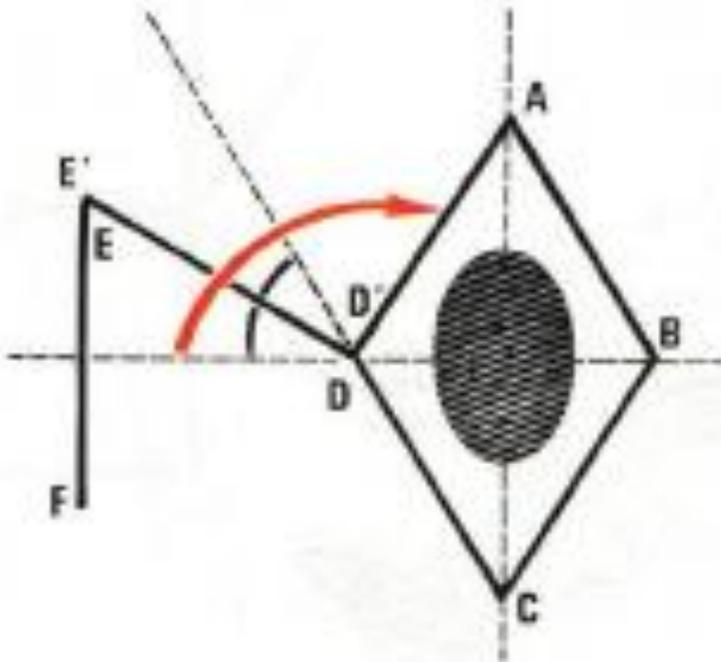


-> Postop. Angiography  $\pm$  PTA

# Post-op. PTA



# Dufourmentel variant (1966)



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Minimal infection (antibiotic therapy)	1	
Access occlusion		2
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Deaths, lost to follow-up	3	3
New necrosis, access occlusion	2	3
<b>Success at 6 months</b>	19/25 (76%)	6/15 (40%)

# Thank you for your attention !

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