

ULTRASONOGRAPHIC IDENTIFICATION OF THE POSTERIOR  
INTEROSSEOUS ARTERY. TECHNICAL REALIZATION, RESULTS ON  
THE HEALTHY SUBJECT AND CONSEQUENCES ON THE CHOICE  
OF RAISE OF A POSTERIOR RETROGRADE PEDICLE POSTERIOR  
FLAP

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# ANATOMICAL VARIATIONS OF PIA:

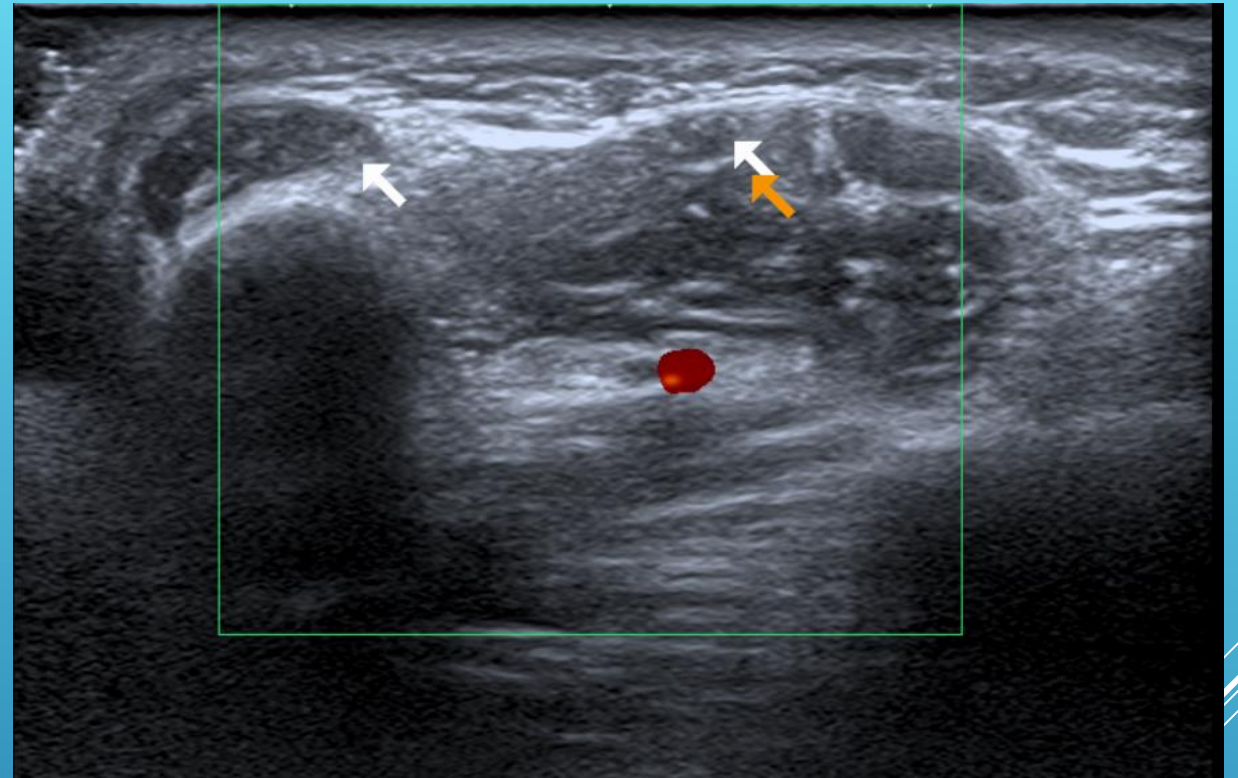
Absence of anastomosis with AIA

Decrease size at middle part (Angriani PRS 1993)

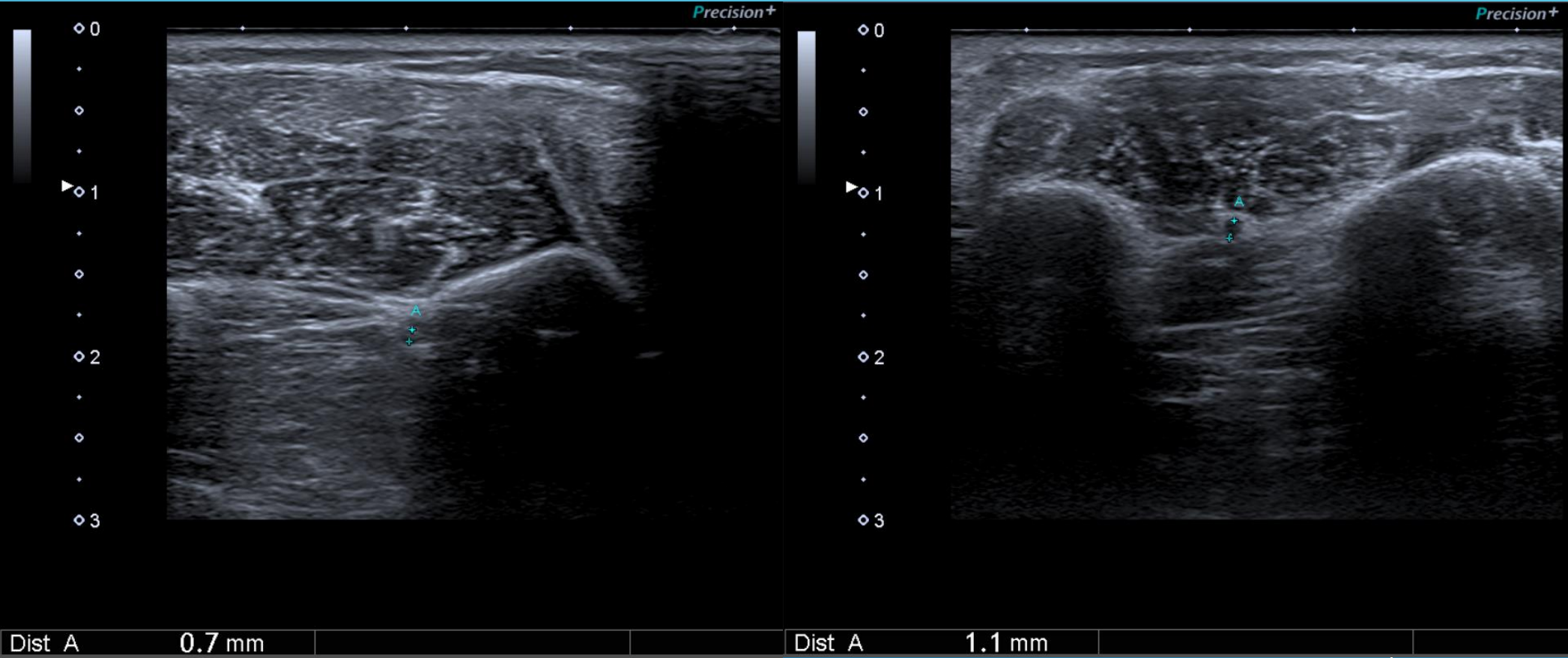
Absence of PIA at the middle part (Penteado Surg Radiol Anat 1986)

# THE STUDY

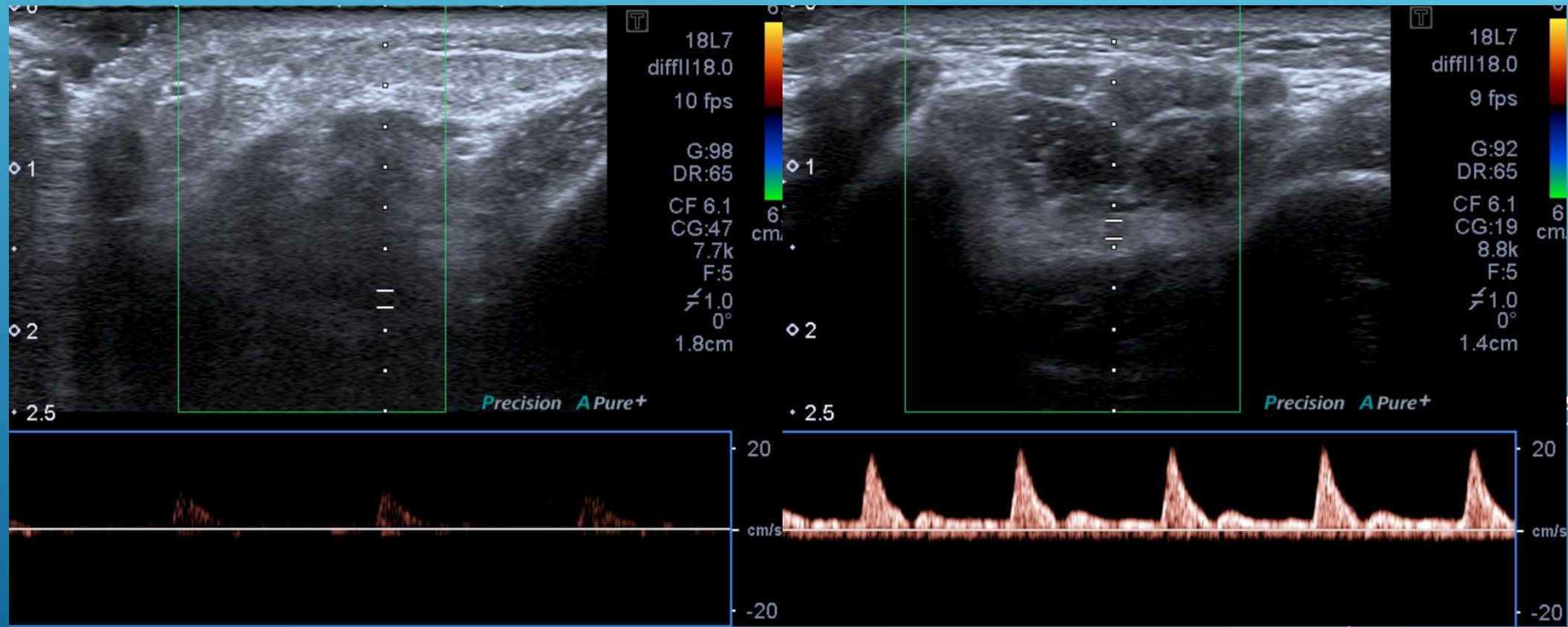
- - Surgeon
- - TOSHIBA APLIO 300 12 Mhz
- - 10 wrists
- - Color doppler
- - Elevator technique
- -Under EDM up to DRUJ



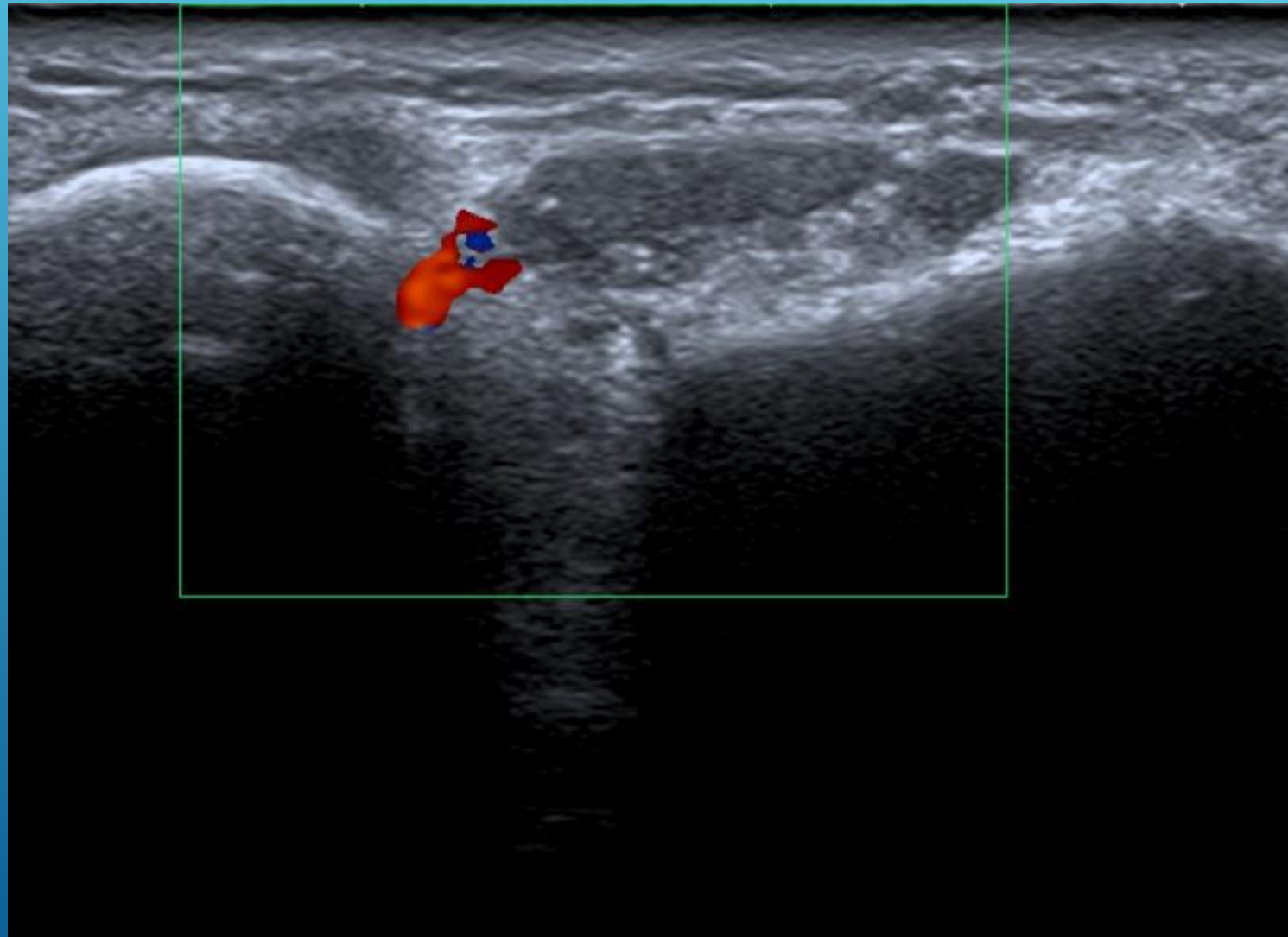
# DIAMETER MIDDLE THIRD/ INF THIRD



# FLOW EVOLUTION MIDDLE THIRD/ INF THIRD



# PIA/AIA ANASTOMOSIS




# RESULTS

- Diameter at middle third= 55% of the diameter at the lower third
- Anastomosis with AIA in 80% of cases
- One case doubtful anastomosis + decrease flow
- One case doubtful anastomosis but full flow

Age	sexe	PIA inf diameter (in mm)	PIA Middle diameter (in mm)	Anastomosis AIA/PIA	Flow speed (PIA inf/sup)
38	F	1,2	0,8	yes	identical
58	F	1,3	0,8	yes	identical
40	F	1,2	0,7	doubtfull	decrease
46	F	1,0	0,6	yes	identical
44	F	1,2	0,8	yes	identical
52	M	1,7	1,0	doubtfull	identical
46	M	1,6	0,9	yes	identical
43	M	1,5	0,6	yes	identical
56	M	1,7	0,9	yes	identical
41	M	1,4	0,8	yes	identical

# DISCUSSION

- Ultrasound is easy and seems reliable
  - Lower third reinforcement of flow may be considered as an indirect sign of anastomosis with AIA when not seen.
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- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.



# DISCUSSION: DIFFERENT WAY TO TRACK

## RADIOLOGY

Arteriogram: Voigt (Eur J Plast Surg 2013)

Tomographic Angiography: Rozen (Ann plast Surg 2010)

But no emergency(burn) and need a radiologist

# DISCUSSION: DIFFERENT WAY TO TRACK

Ultrasound: Vinita (JPRS 2007): But perforant arteries

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.

# DISCUSSION: DIFFERENT WAY TO TRACK

## SURGICAL

Penteado, Zancolli, Angriani, Goubier, Lai-jin

## NO:

Balakrishnan, Acharya

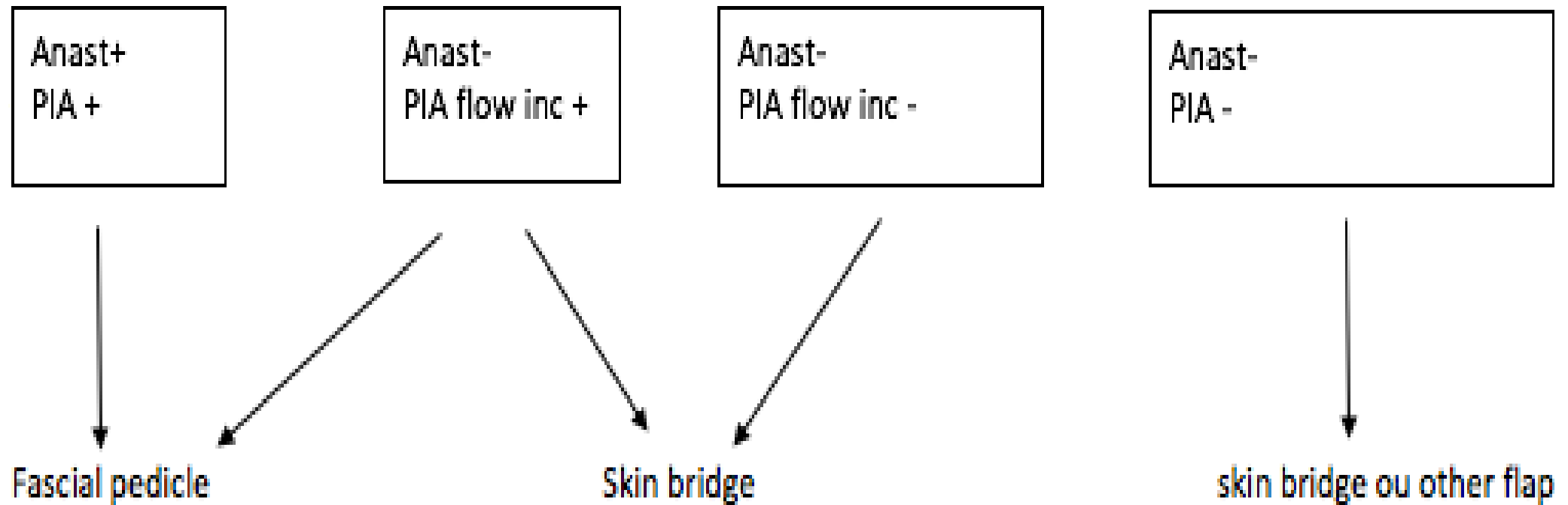
# DIFFERENT WAYS TO RAISE

- Fascial pedicle (Masquelet Ann Chir Main 1987, Zancolli J Hand Surg 1988)
- With skin bridge (Acharya JHS 2012, Balakrishnan PRS2003)



From Acharya JHS 2012

# DECISION TREE



# CONCLUSION

- Easy tracking and seemingly reliable
  - Adapt surgical technique to ultrasound data
  - To be confirmed in clinical practice
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