

Superficialisation of the radial artery

- an alternative secondary vascular access

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Superficialisation of the radial artery

- } Typically in patients with difficulties in creation of secondary arterio-venous fistula (AVF) on forearm either upper arm AVF or prosthetic shunt are considered.
- } Both procedures are associated with higher complication rate than peripheral AVF.



Superficialisation of the radial artery

- } The radial artery in healthy individual is too small (1,5-2,5mm in diameter) to use it for repeated needling for HD. However in patients with previously matured AVF (even later clotted) the radial artery is often enlarged (5-6mm in diameter).



Superficialisation of the radial artery

- } Preoperatively doppler ultrasound was performed to measure diameter and patency of the radial and ulnar arteries.
- } In local anesthesia, 10cm long skin incision above radial artery was made. All collaterals were ligated to mobilize the artery and finally it was placed in subcutaneous pocket.
- } At the end the vessel bed and the skin was sutured.

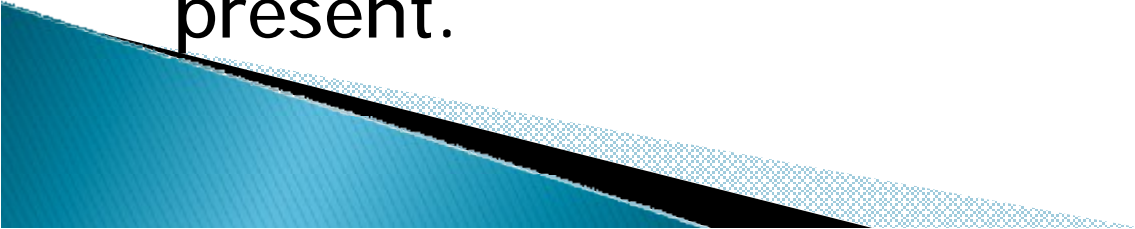


- } Procedure was performed in 6 patients (pts). In one women intraoperatively artery diameter was to small (4mm) and the procedure was abandoned.
- } In remaining 5 pts superficialisation was performed. In one case transient hematoma appeared.
- } The main indication to create such access in 4 pts was completely obstructed forearm veins and in two patients additionally subclavian vein stenosis. In those pts elevation of the artery was performed after closing of AVF and retreat of arm edema.



- } Currently follow up period ranges from 4 to 9 months and all elevated arteries are patent.
 - } HD adequacy parameters are satisfactory.

 - } The patients were asked to fill out the survey focused on pain during HD (Visual Analog Scale; 0 min-10 max) in term to compare it to wrist AVF. The mean response was 1.

 - } In all pts plethysmography (PVL device; Biomedix, USA) was performed to check hand's blood supply. No signs of hand's ischemia were present.
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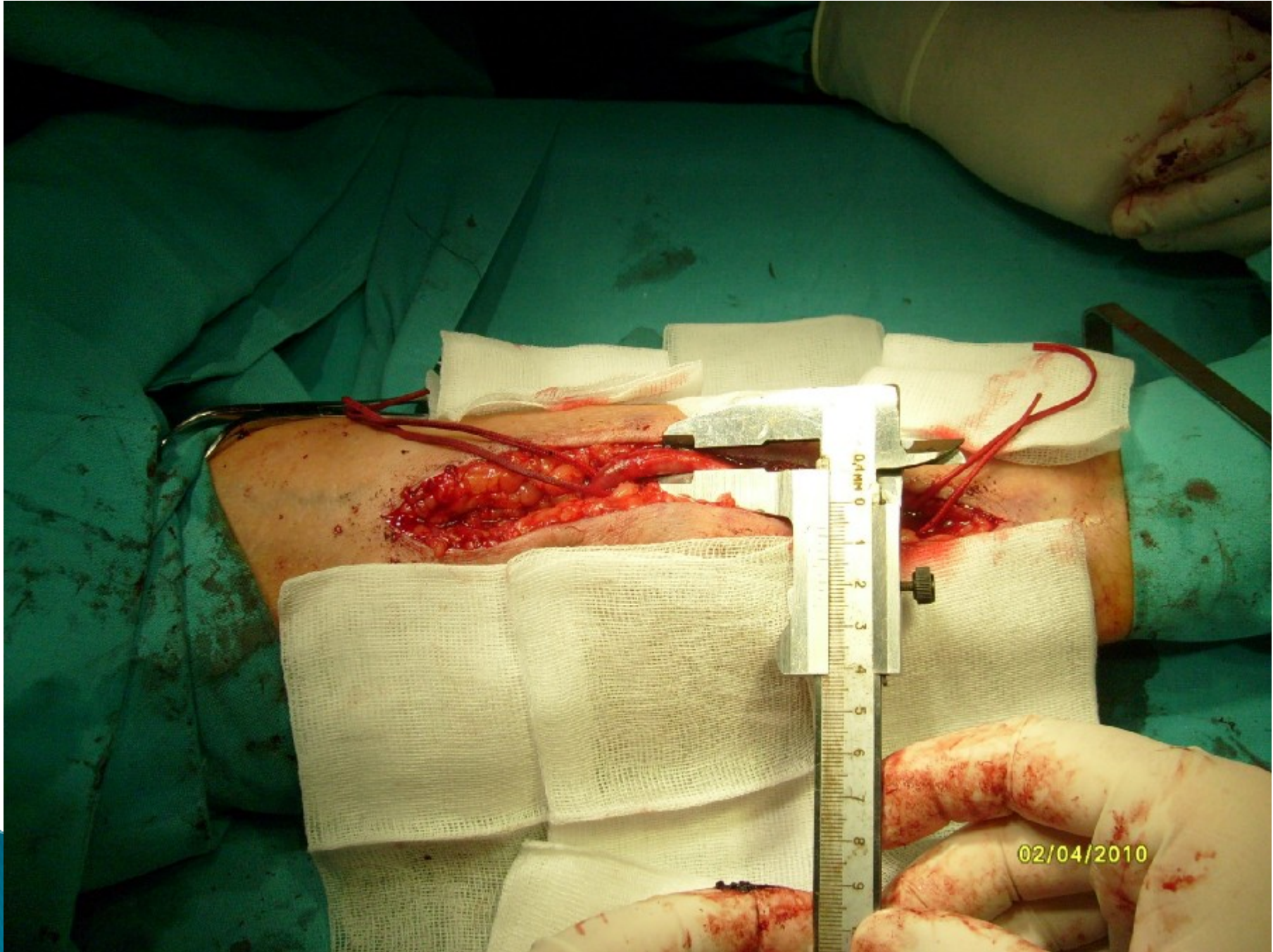
} Conclusions

- } Elevated radial artery may be successfully utilized in pts with long functioning forearm AVF which irreversible clotted and who have no other perspective for forearm AVF.
- } The only prerequisite is patent and enlarge radial artery for safe repeated puncturing.
- } Because the method does not burden heart function may be especially dedicated for those pts with heart failure.





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