1. Background

"Pre-operative renal function is a major determinant of outcome from AAA repair, whether by open or endovascular repair".

“EVAR uses iodinated contrast agents for diagnosis, procedure and surveillance, that carries the risk of nephrotoxicity”

2. OR vs EVAR impact on renal function

3. How to reduce renal damage during EVAR

4. Summary

Disclosures:

Consultant: Bolton Medical / Medtronic / Biotronik / W.L. Gore / Aptus / Cordis / Jotec / C.R. Bard / Vascular / Lombard Medical

Proctor: Cook Medical / Bolton Medical / Medtronic / W.L. Gore / Aptus / Cordis / iVascular
Impact of chronic kidney disease on outcomes after abdominal aortic aneurysm repair

National registry
8701 matched AAA patients with CKD
(5811 EVAR vs 2890 OR)

OR was associated with higher mortality and morbidity

Comparison of Outcomes for Open Abdominal Aortic Aneurysm Repair and Endovascular Repair In Patients With Chronic Renal Insufficiency

National registry
8701 matched AAA patients with CKD
(5811 EVAR vs 2890 OR)

OR was associated with higher mortality and morbidity

NSQIP database from 2005 to 2010:
13,191 patients ( 9877 EVAR vs 3314 OR)
40% with eGRF <60ml/min

• OR was associated with higher mortality and morbidity
• Patients with sever CKD had similar outcomes for OR and EVAR
• OR in Patients with moderate CKD had 5.2 times higher risk of dialysis

OR vs EVAR (Retrospective cohort study)
223 AAA patients from two centers

• OR was associated with significant acute fall in eGFR
• EVAR was associated with a worse Renal function in the long-term follow-up

OR was associated with significant acute fall in eGFR
EVAR was associated with a worse Renal function in the long-term follow-up

Overall Pre-existing renal failure

Renal protection during EVAR

- Pre-procedure endovenous volume expansion
- Iso- and low-osmolar contrast election
- CO₂-angiography
- Wire and bone land-markers
- IVUS
- FUSION-overlapping technique
- Best endograft choice
- CEUS for surveillance rather than angioTC

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4. Summary

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- EVAR is not contraindicated in CKD patients
- EVAR is the first choice for patients with renal dysfunction and appropriate anatomy
- OR is associated with higher mortality and morbidity in CKD patients
- There are some renal protective procedures
- Avoid angio CT during follow-up. Switch to Duplex exam (color or CEUS)