



CHIMNEY EVAR: *HOW WE DO IT*

Post-operative management & follow-up

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Introduction

Technical aspects, current indications, and results of chimney grafts for juxtarenal aortic aneurysms

Raphael Coscas, MD,^a Hicham Kobeiter, MD,^b Pascal Desgranges, MD, PhD,^a and Jean-Pierre Becquemin, MD,^a *Créteil, France*

Post-operatively

- ✓ 1 patient died of a retroperitoneal hemorrhage
- ✓ 1 patient died of mesenteric ischemia
- ✓ 1 patient stroke & 4 local vascular complications

Median follow-up of 10.5 months (range, 2-19 months)

- ✓ 2 patients died
- ✓ Not aneurysm-related



Introduction

“Perioperative mortality in ChEVAR is similar to OR and FEVAR, within the acceptable rate of 3.1%”

“In elder patients, late outcomes, including overall mortality, are similar to standard EVAR”

“A high major adverse event rate up to 8.5%”

“Stroke after ChEVAR is associated with a high mortality rate”



Introduction

In our series

- ✓ Overall 30-day mortality was 10% (3/30)
 - ✓ *1 aneurysm related death due to severe SIRS*
 - ✓ *2 due to MI (2nd & 5th post-operative day, respectively)*
- ✓ In-hospital morbidity
 - ✓ *3 MIs (2 fatal)*
 - ✓ *2 strokes (1 patient died 6 months later due to pneumonia)*
- ✓ Follow-up (1-36 months)
 - ✓ *1 due to pneumonia*
 - ✓ *1 due to alcoholic cirrhosis*
 - ✓ *1 due to MI*



Don't forget!

- ✓ *The fragility of these patients*
- ✓ *All these patients were characterized as unfit for open repair*
- ✓ *A complex aneurysm anatomy remains an independent factor of progressed disease*



Post-operative management



ICU



Ward

The majority of the patients are transferred *directly* to the ward



Transfer to ICU

The main reasons for a transfer to ICU are

- ✓ Recent PTCA/MI
- ✓ Severe COPD
- ✓ Hypothermia



Management to the ICU

Monitoring of vital signs

- ✓ Invasive measurement of BP
- ✓ Blood Gas

Control of urine output/Fluid balance

- ✓ Crystalloids
- ✓ Adjustment of fluid needs

Extubation

- ✓ If possible, in the first 12 hours





Management to the ward

Close monitoring of BP, BPM, SpO2

- ✓ Normotensive (100-130mmHg)
- ✓ BPM 55-85/min
- ✓ SpO2 90-99% (according to previous status)

Control of urine output/Fluid balance

- ✓ Urine output per hour
- ✓ Adjustment of fluid needs

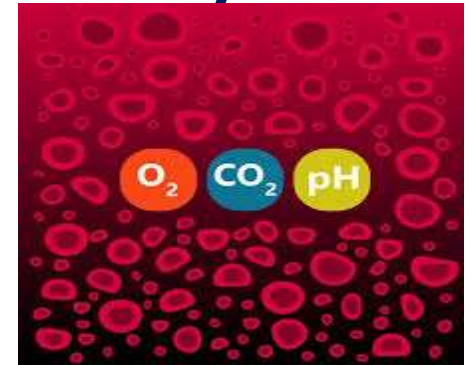




Management to the ward-Day 0

Laboratory tests & Blood Gas

- ✓ Blood Gas 6 hours after the transfer to the ward
 - ✓ Repeat according to results
- ✓ Hgb, WBC, Creatinine, K & Na
- ✓ Tn-I day (pre-operative baseline)





Management to the ward

In-hospital days

- ✓ Repeat of laboratory tests daily for the first 4 days & then, according to results
- ✓ Vital signs/ 3 hours the 1st day and if stable, per 8 hours thereafter
- ✓ Urine output





Management to the ward

Mobilization

- ✓ Day 1



Respiratory physiotherapy

- ✓ Started pre-operatively → if possible day 0, if not day 1

Food

- ✓ Water/tea day 0
- ✓ Light regimen at day 1
- ✓ Normal diet at day 2



In case of SMA catheterization, food restriction for 24 hours & diet adapted to bowel function



Medication

Medication

*In all patients **double antiplatelet therapy***



Except...

*If the patient is under anticoagulant treatment with
VKA/DOAC*



Single antiplatelet therapy



Medication

DAPT or VKA/DOAC+ antiplatelet agent



1 up to 6 months

- ✓ *According to patient's specific bleeding/thrombotic risk*





Imaging

If creatinine within normal limits,

- ✓ CTA abdominal aorta & iliac arteries the 3rd or 4th post-operative day



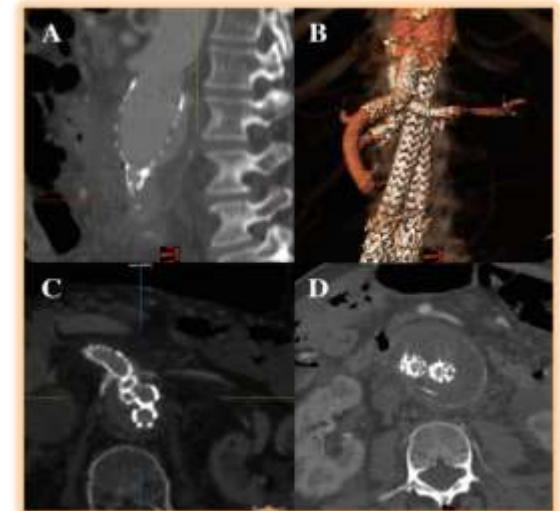


Follow-up after discharge

1st month

- ✓ *Laboratory tests*
 - ✓ *Hgb, WBC, Creat, K, Na, CRP, Chol, TRG, LDL, HDL*

- ✓ *CTA abdominal aorta & iliac arteries*





Follow-up after discharge

6th month

✓ Laboratory tests

✓ Hgb, WBC, Creat, K, Na, CRP, Chol, TRG, LDL, HDL

✓ DUS abdominal aorta & target vessels

✓ Plain X-Rays





Follow-up after discharge

1st year

- ✓ *Laboratory tests*
 - ✓ *Hgb, WBC, Creat, K, Na, CRP, Chol, TRG, LDL, HDL*

- ✓ *CTA abdominal aorta & iliac arteries*

**The same evaluation is repeated
yearly thereafter**



Conclusions

- ✓ Meticulous peri-operative care
- ✓ Strict follow-up protocol with imaging & laboratory tests



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Thank you



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