

# **Intra thoracic debranching procedures from the ascending Aorta for TAAA**

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# Current options for TAAA repair



## **Surgery for TAAA**

- High neurological, renal and respiratory morbidity (around 30%)
- High Mortality (around 20%)



## **Branched Stentgraft**

- Time consuming
- High radiation exposure
- Trained physician
- Preliminary experience

- **Hybrid Surgery is promising**
- **Hybrid Surgery is accepted for HRP**

# Hybrid surgery results for TAAA

## Donas (EJVES 2007)

- Review of **13 studies** – 58 patients
- FU 14.5 M +/- 8M
- 234 visceral vessel grafts : patency = 97.8%
  - Reintervention 1.6% → paraplegia = 0%
  - Endoleak 20.6% 13.6% → reintervention
  - Overall early and long term mortality : **15.5%**
  - Most Approach abdominal aorto-iliac arteries

# Personnal TAA experience

- **Surgical repair with partial CPB**

- 30 patients
- morbidity & Mortality 15%

- **Hybrid surgery from the abdomen**

- 6 patients
- morbidity & mortality 40%

 Abandonned , back to surgery

- **Hybrid surgery from the ascending aorta**

- 4 pts
- No death
- 1 transient lung failure (obese patient, CPOD)

# Proposal

## 1st step :

- **Ascending aorta as implantation site of bypasses** to visceral & renal arteries or/and associated supra aortic vessels (partial clamping)

## 2nd step :

**Aneurysm exclusion** with stentgraft implantation

### **Associated tricks :**

- Aortic Banding if necessary
- «V.O.R.T.E.C.» technique can help for left renal artery bypass (Lachat M.)



**Case 1 : type I TAAA  
combined rerouting to the supra aortic vessels  
& visceral arteries**

**Patient's Presentation**

Woman, 65 years old, 62 kg, 169 cm, Asymptomatic,  
Hypertension, severe COPD

**Extensive TAAA (70 mm diameter) from the arch to supra renal  
aorta**



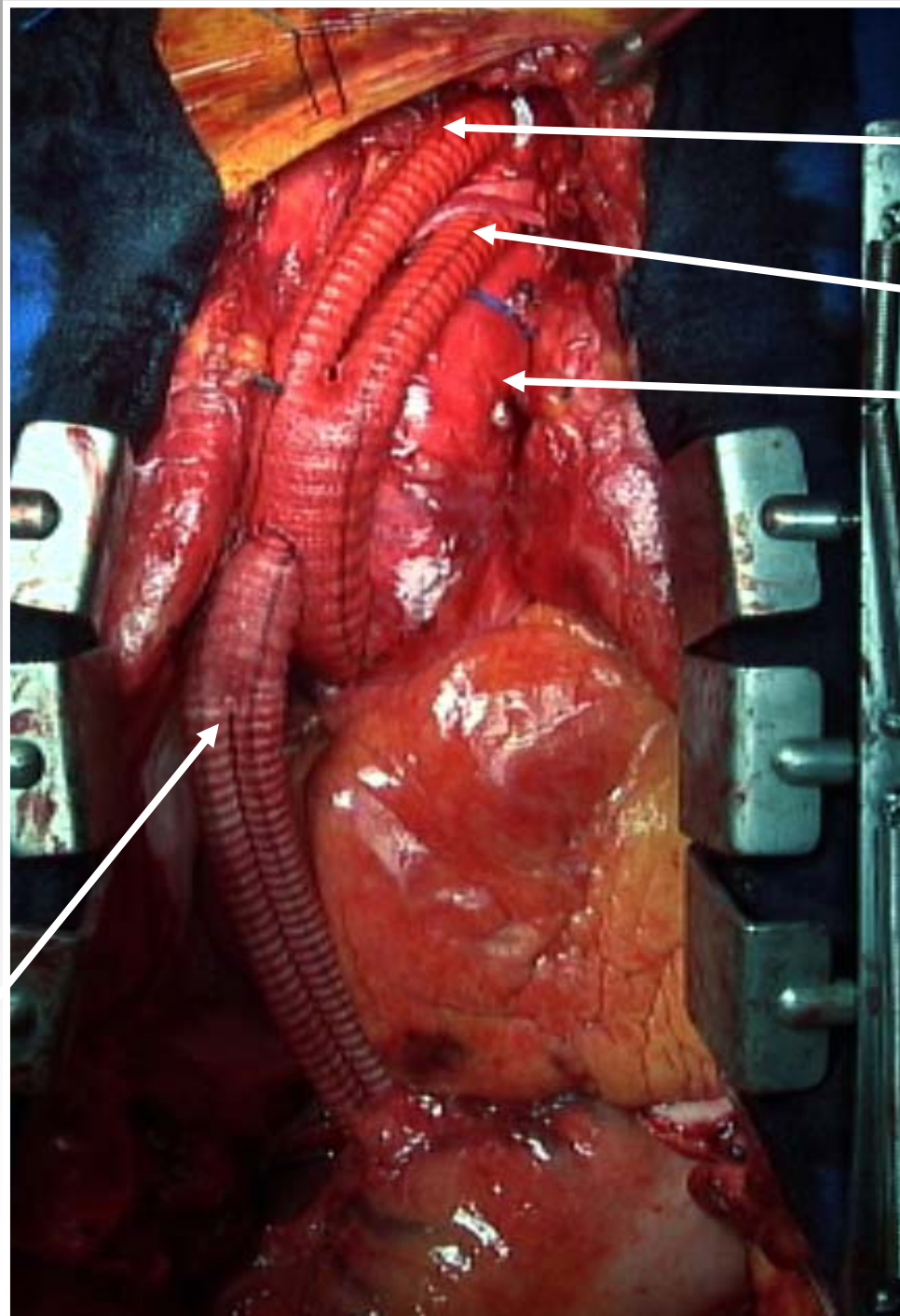
**Suggested Option : Hybrid surgery**

1/ Great vessels transposition  
and visceral arteries transposition

2/ Stentgraft implantation

**Combined  
bypass to :**

- IA**
  - LCCA**
  - SMA**
  - CA**
- + surparenal  
banding**

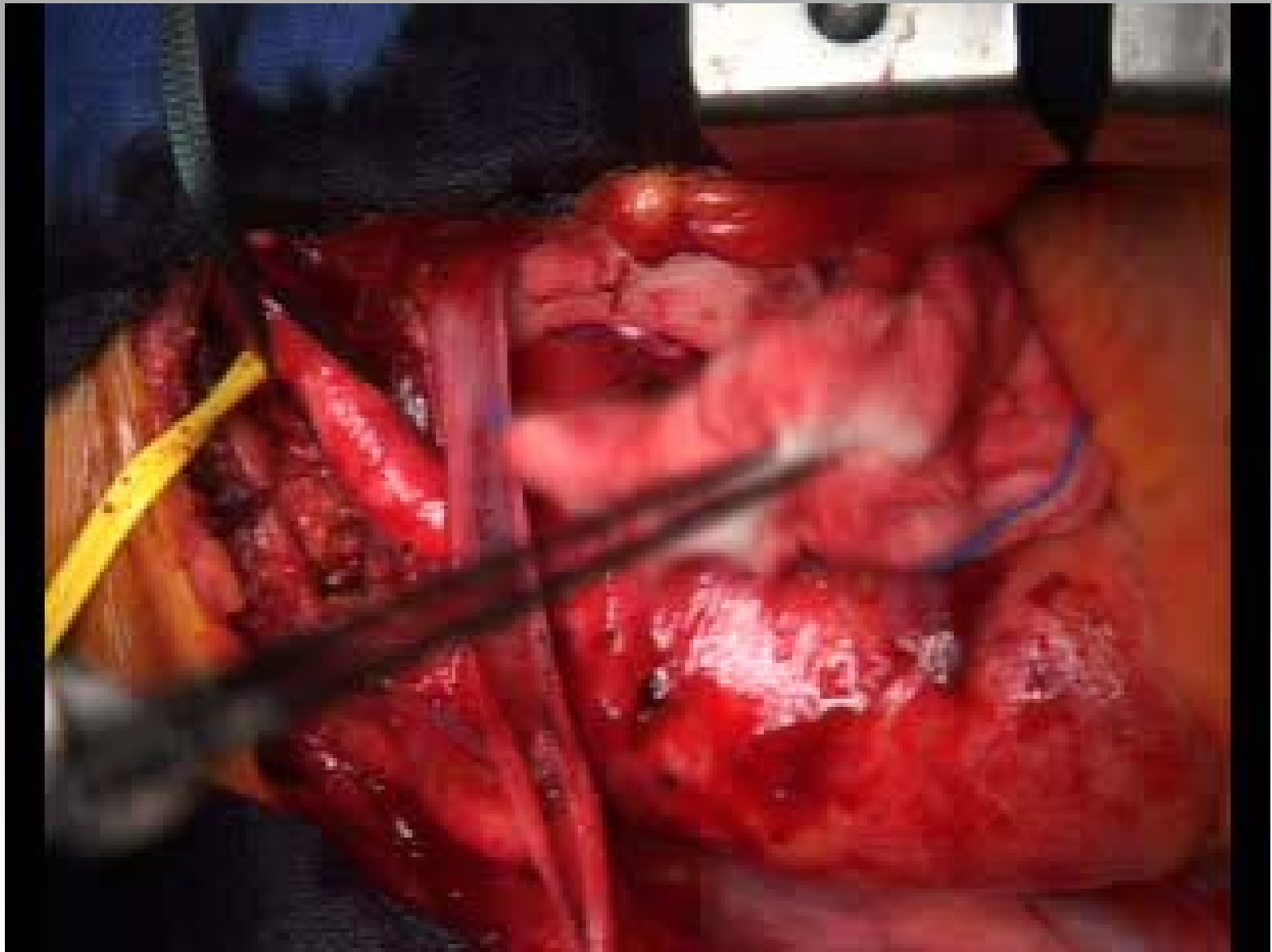


**to IA**

**to LCCA**

**Ascending  
aorta**

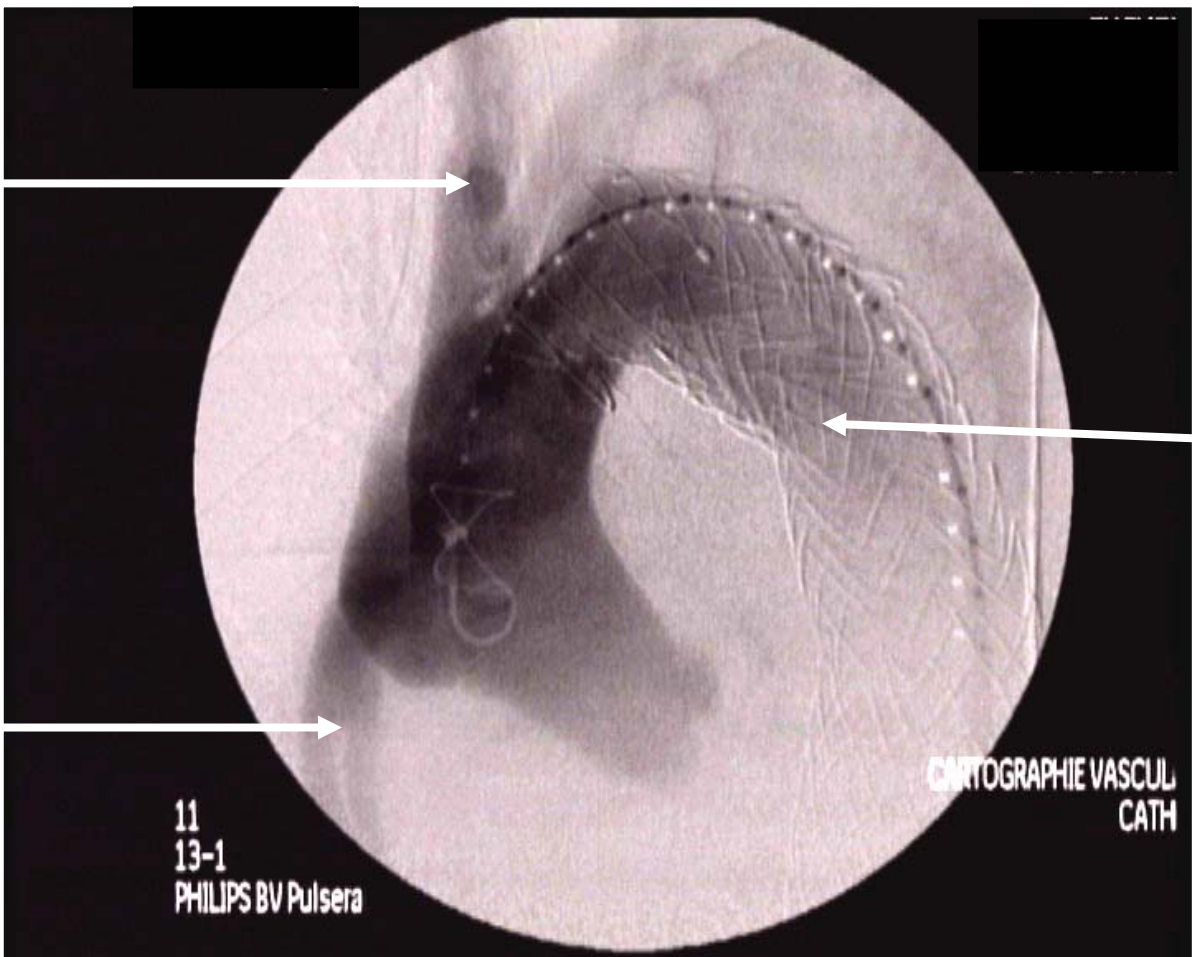
**to visceral arteries :  
CA, SMA**





# Stent Graft deployment

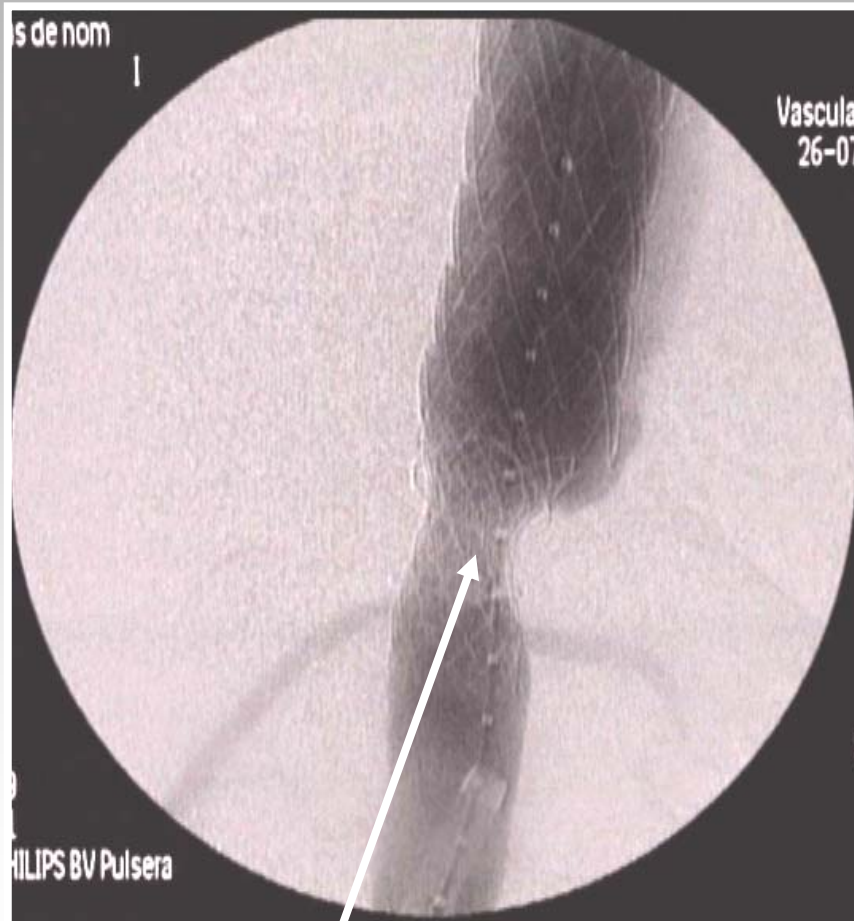
Bypass to  
Supra Aortic  
vessels



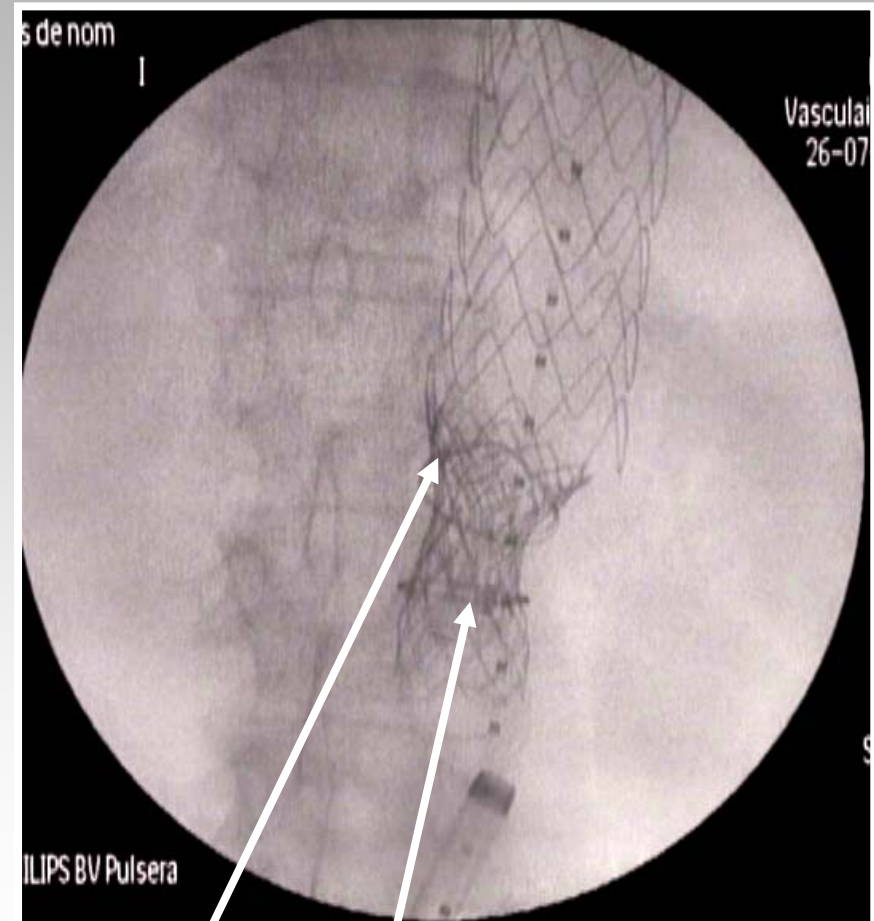
Stent graphpt

Bypass to  
visceral arteries

# Per procedural control : supra renal banding

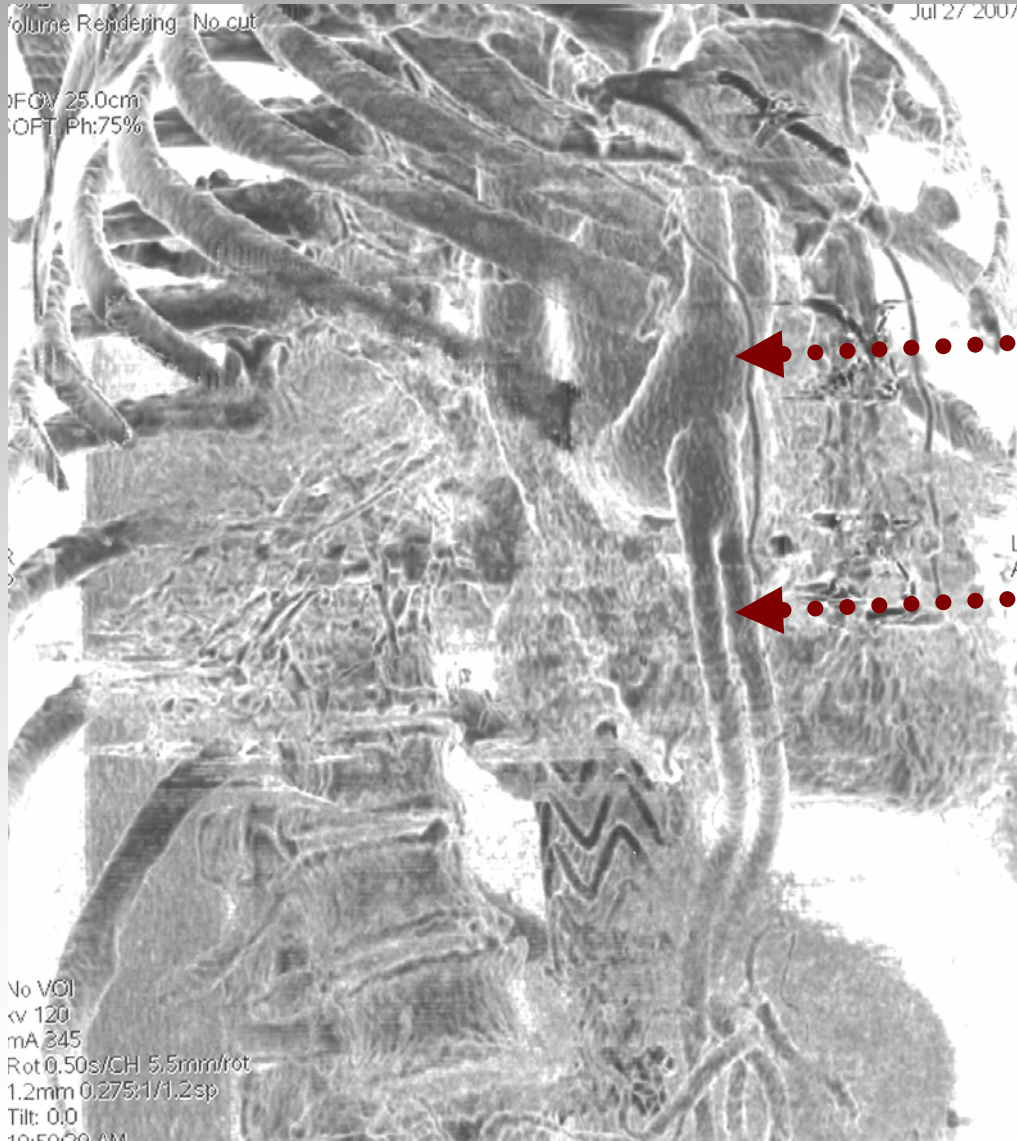


**Banding landing Zone**



**Landing zone markers**

# Post-operative CT Scan

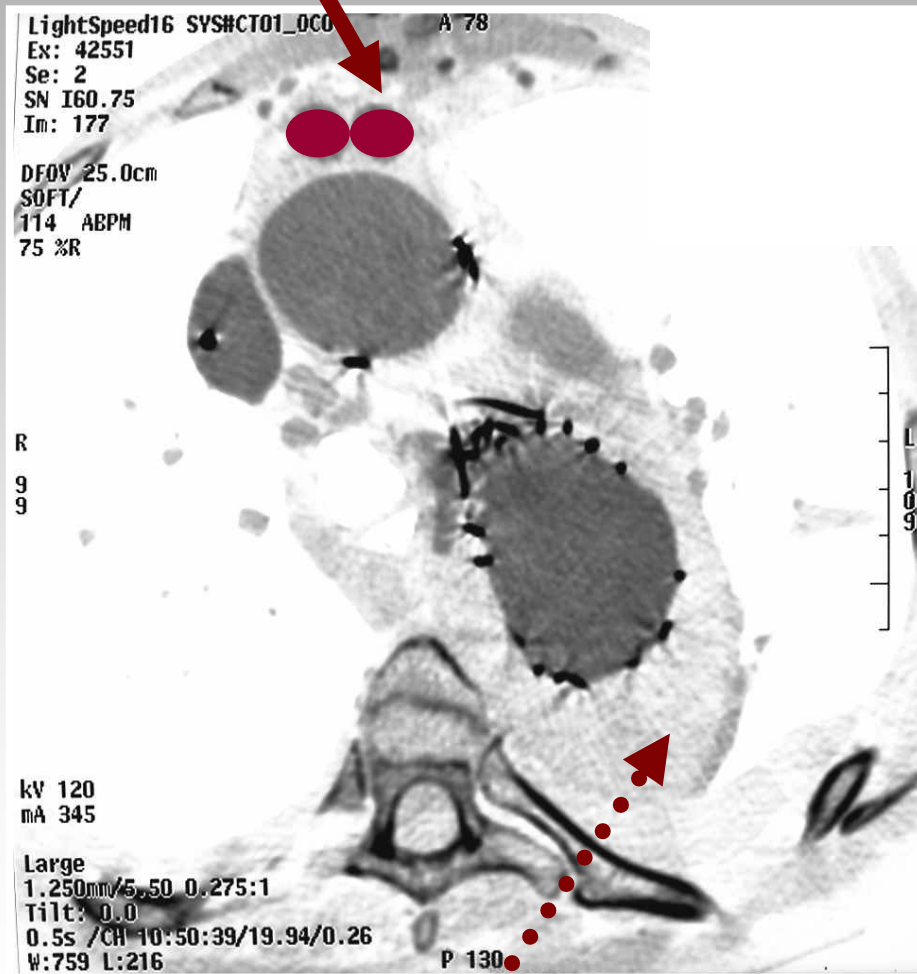


**Bypass to supra  
aortic vessels**

**Bypass to  
visceral arteries**

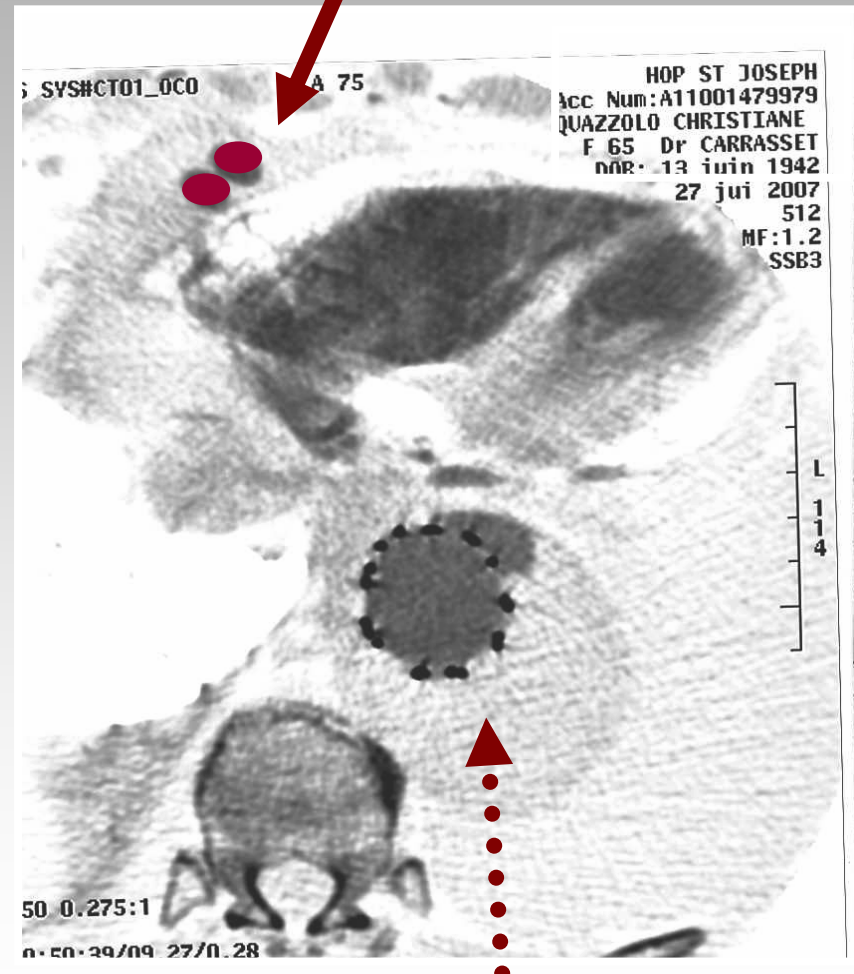
# Post-operative CT Scan

## Bypasses to IA & LCCA



## Arch Aneurysm exclusion

## Bypasses to SMA & CA



## Descending TAA exclusion

# Case 2 : TAAA type IV treated by ascending aorta bypass to visceral arteries and aneurysm stent graft exclusion

## Patient's Presentation

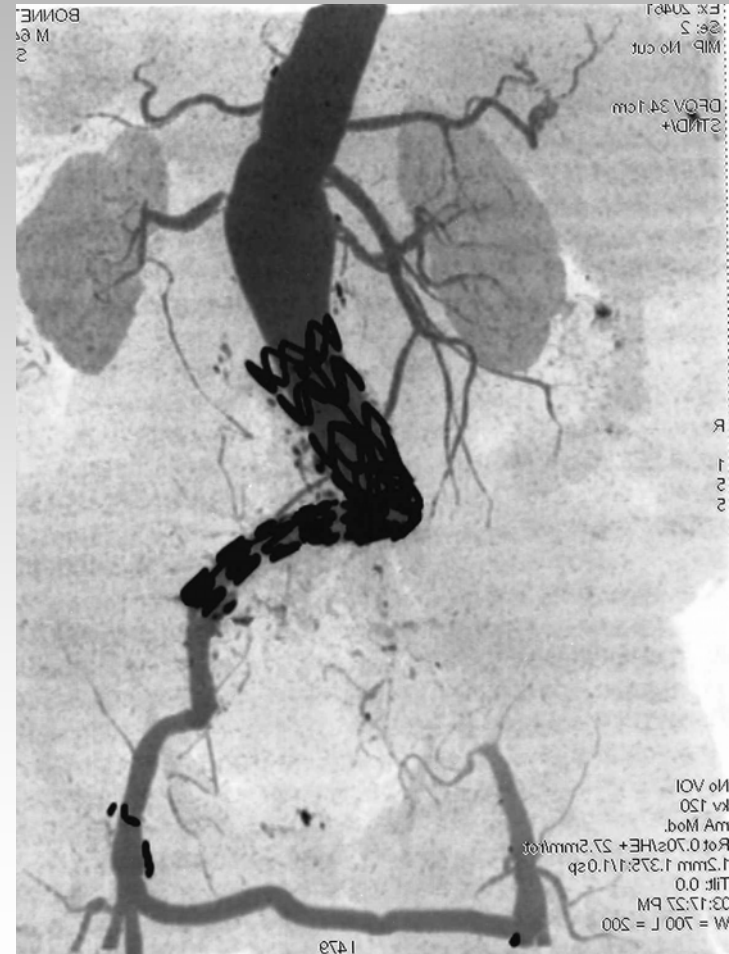
Man, 64 years old, **103 kg**, 169 cm

- AAA (60 mm diameter) treated in 2004 by AUI stentgraf & cross over
- Chronic Atrial Fibrillation
- Heavy smoker
- Overweight

**TAAA** from the middle descending TA to the distal aorta

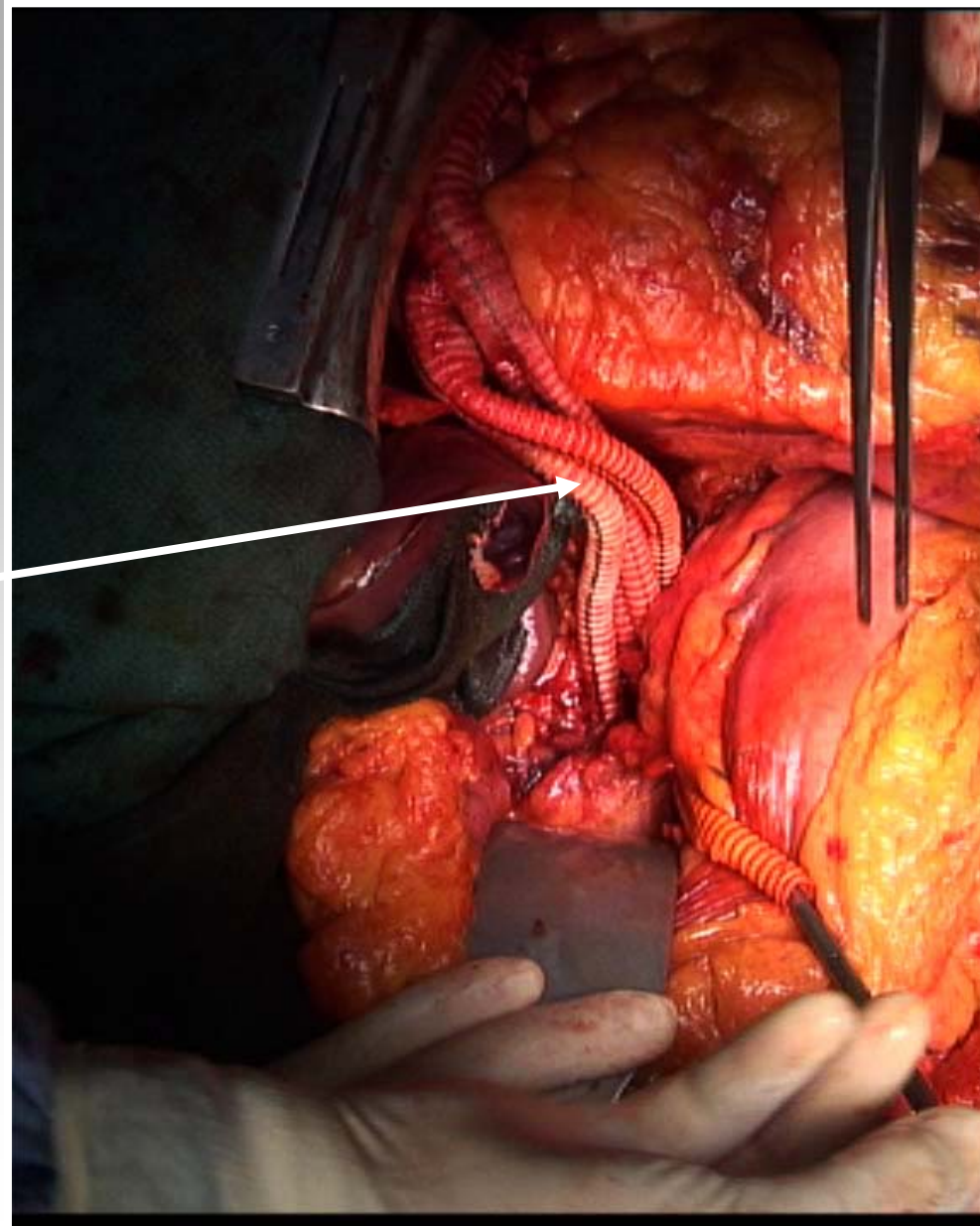
### Suggested Option : Hybrid surgery

- 1/ Visceral & renal arteries re-routine
- 2/ Stentgraft implantation



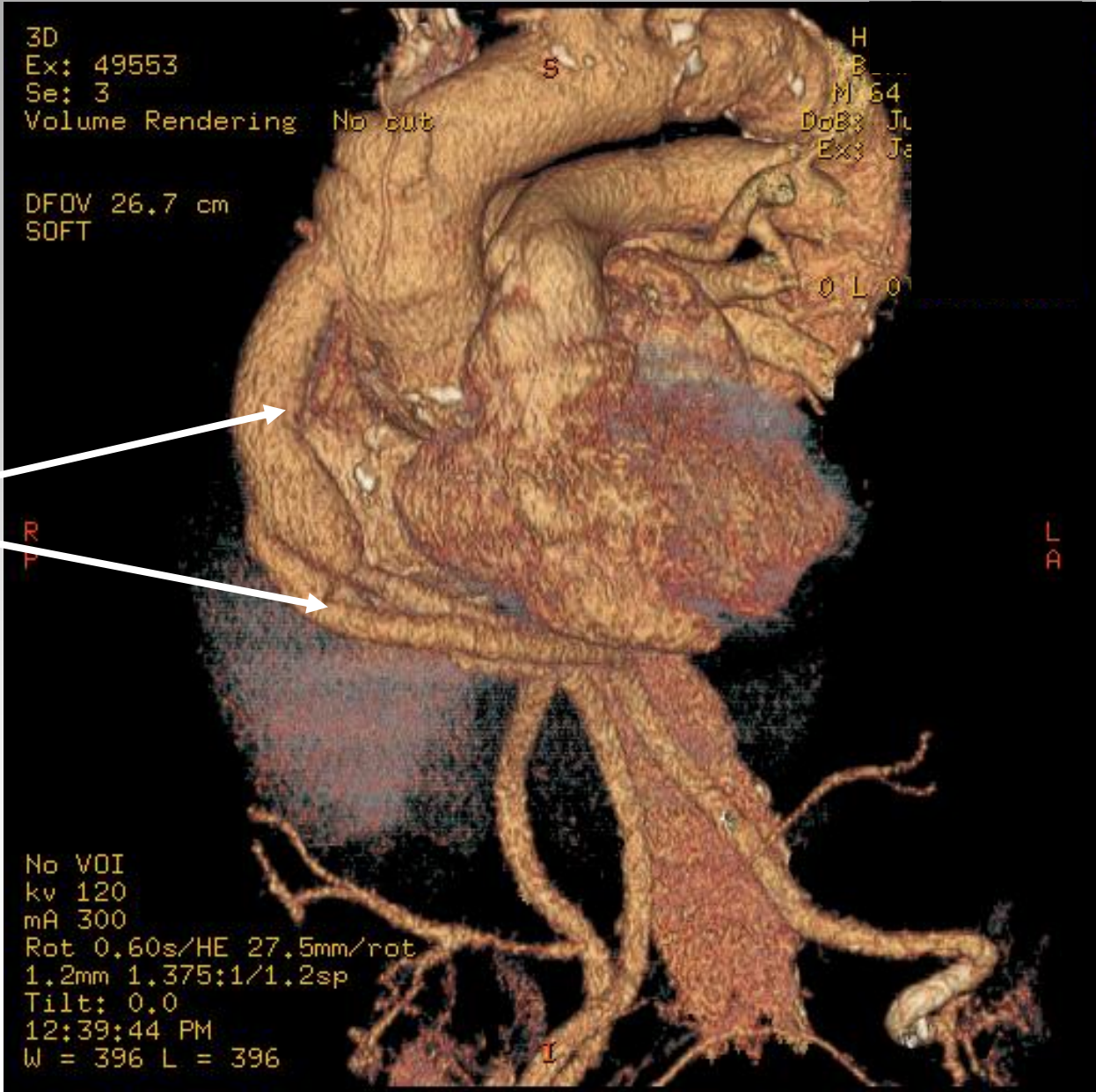
## Per operative view

Bypasses to renal  
& visceral arteries






# Post-operative CT Scan




Bypasses to renal & visceral arteries



# Summary



Limited experience until now : 4 patients  
no death  
1 transient lung failure (obese patient, CPOD)



Hybrid surgery for TAAA is promising but current access through extensive laparotomy is associated with **high rate of morbidity and mortality**



**Anterograde revascularisation** from the ascending aorta offers a **less invasive approach** and a **better inflow** to visceral arteries



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