

Paris, Saturday January 2018

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Leriche syndrome: tips, tricks and results,  
why my option is the best?

# OPEN AORTO BIFEMORAL BYPASS

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San Raffaele Scientific Institute - Università Vita-Salute



# Disclosures

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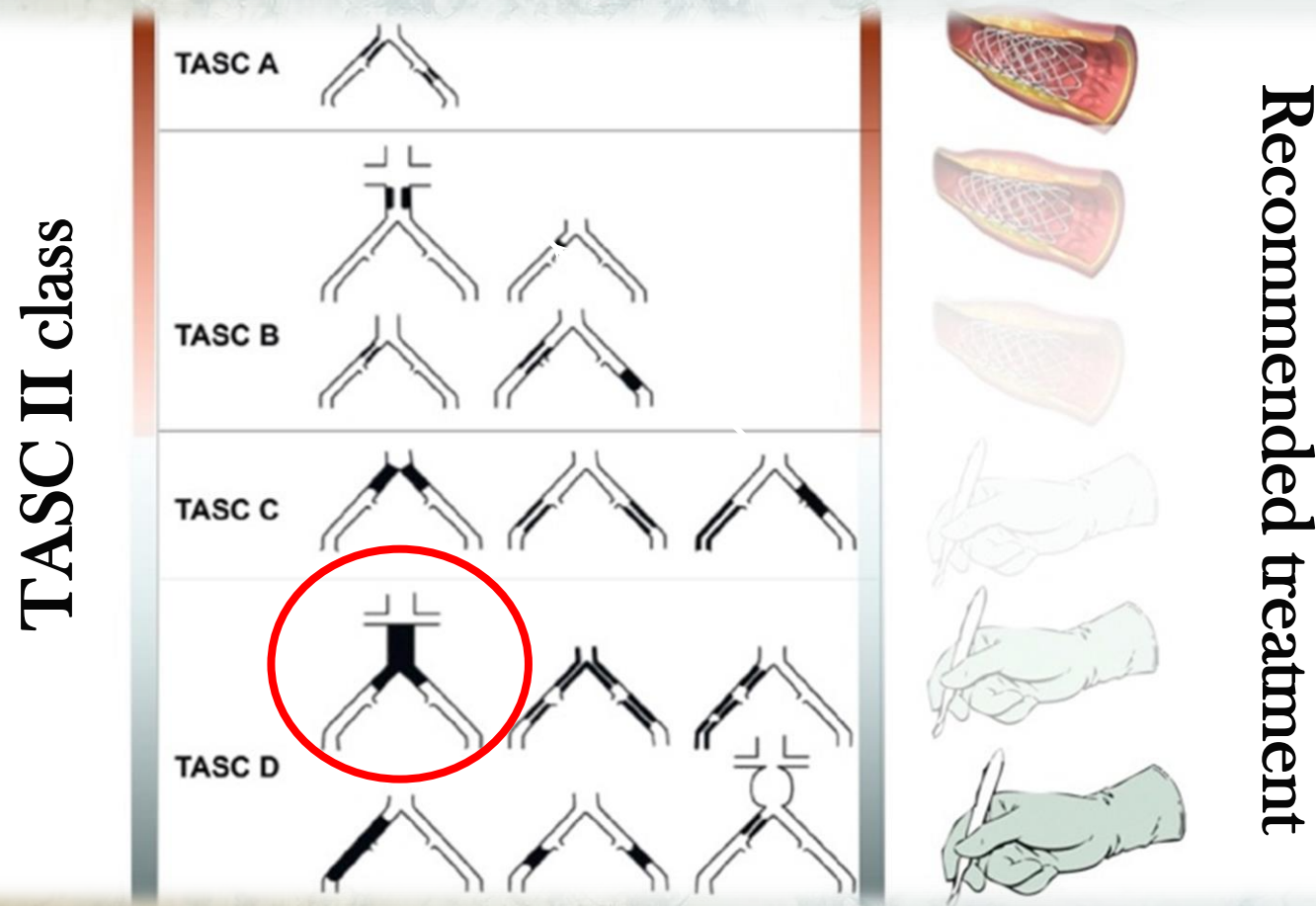
Nothing To Declare



# TASC II Recommendations

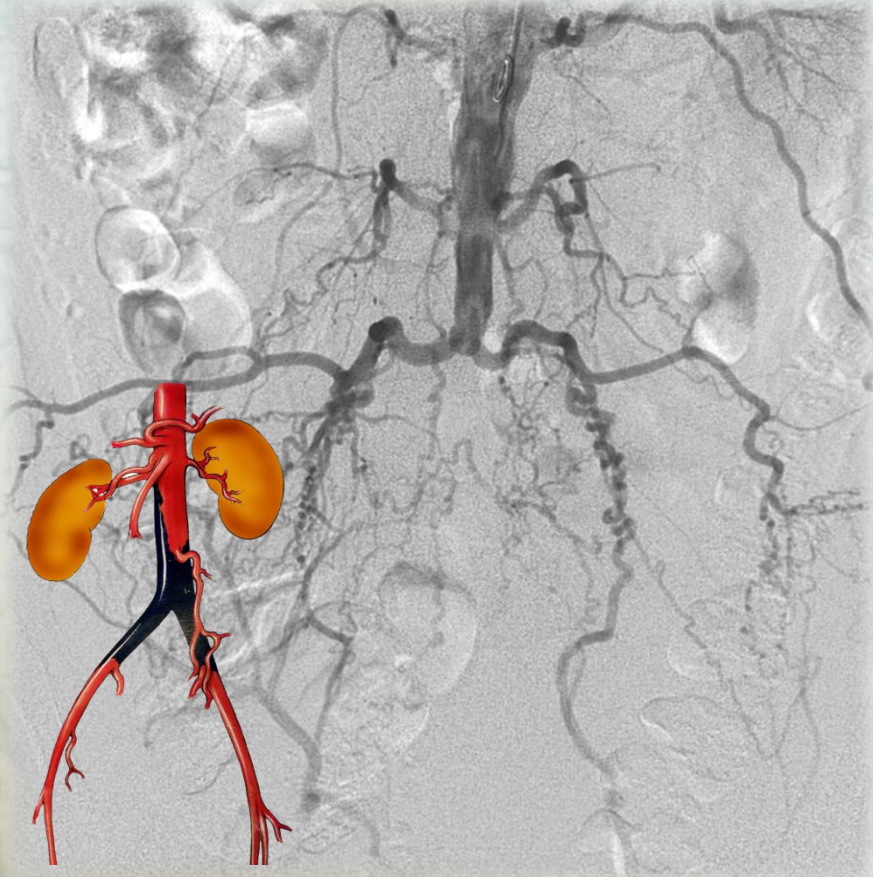
Surgery is the treatment of choice for type D lesions

(Treatment of aortoiliac lesions - Recommendation 36)

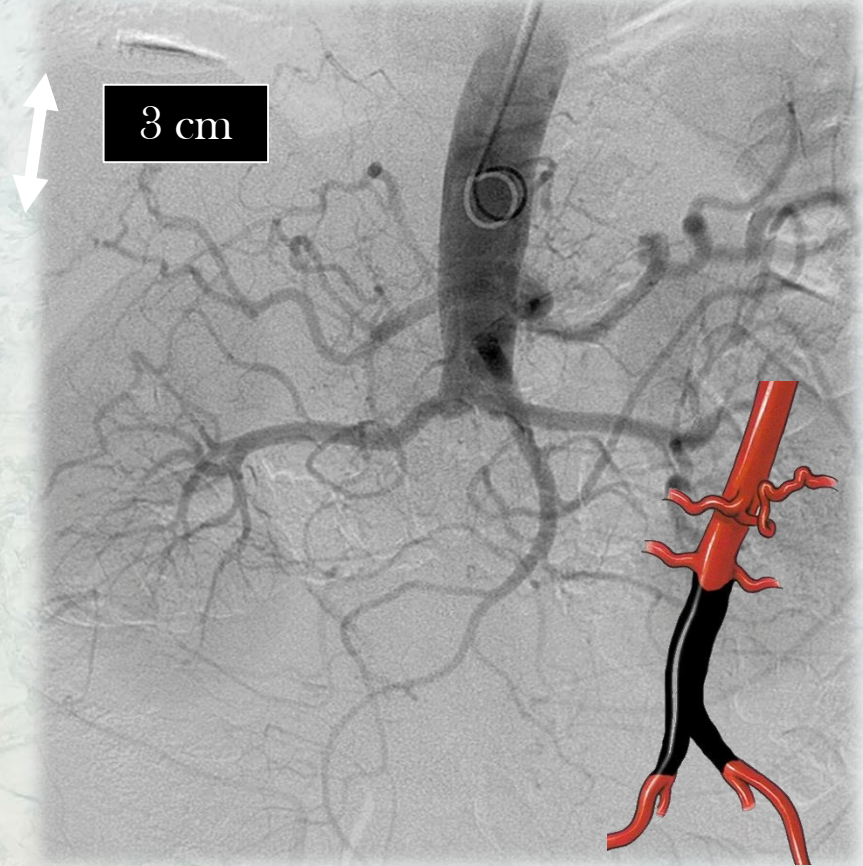


# OSR Open Series: 1993-2017: 269 cases

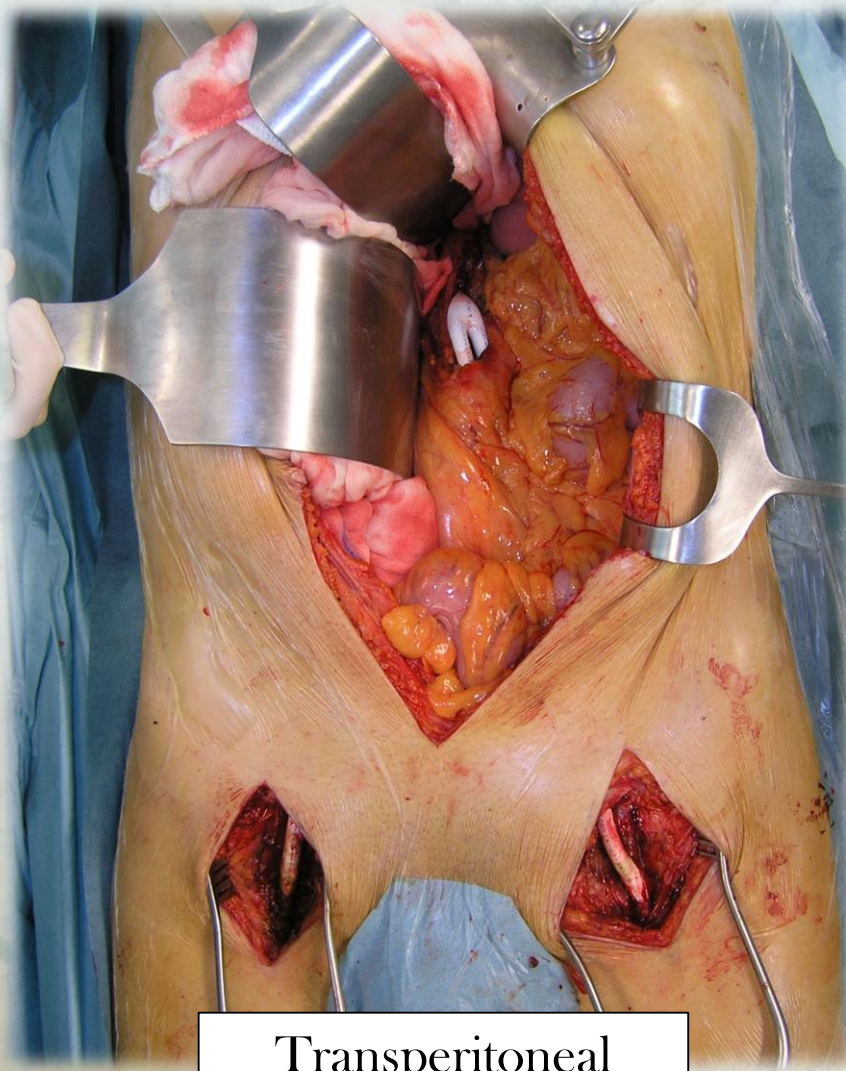
Distal Occlusion  
(161 pts.)



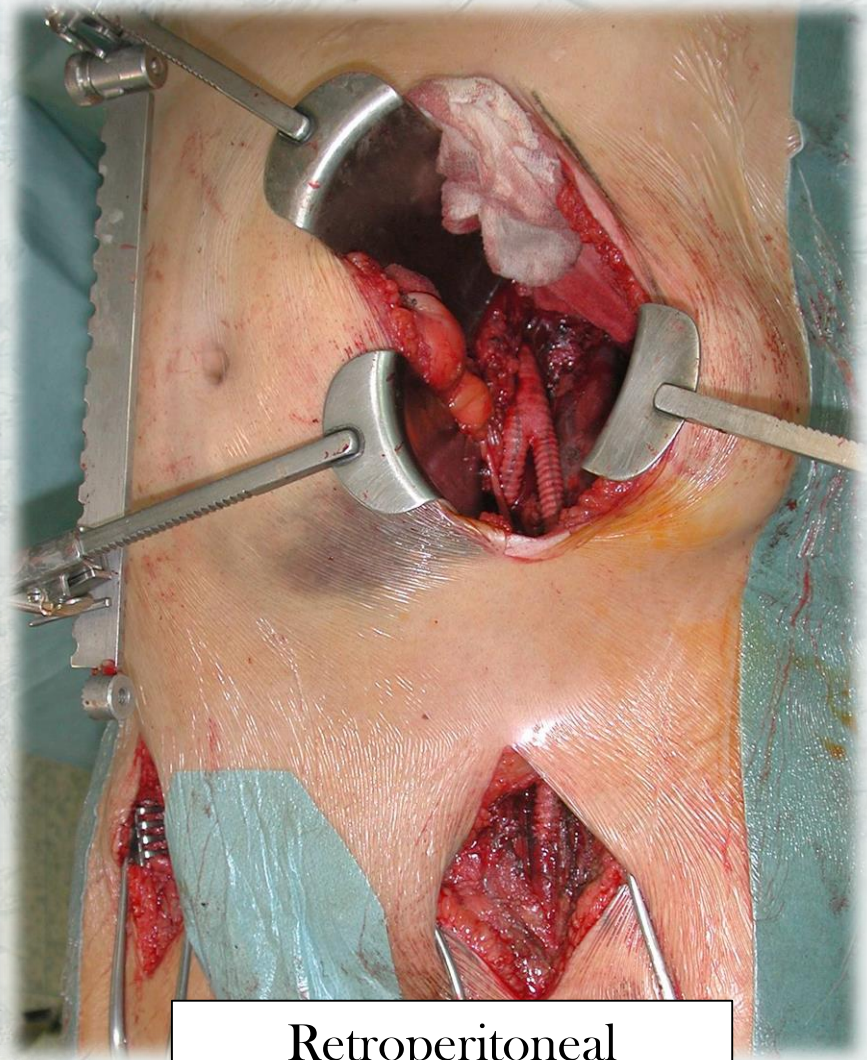
Juxtarenal Occlusion  
(108 pts.)



# #1. Aorto Bifemoral Bypass: 142 cases



Transperitoneal



Retroperitoneal



# Metanalysis on 5,358 patients

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## Primary Patency

OPEN\*

94.8%

86.0%

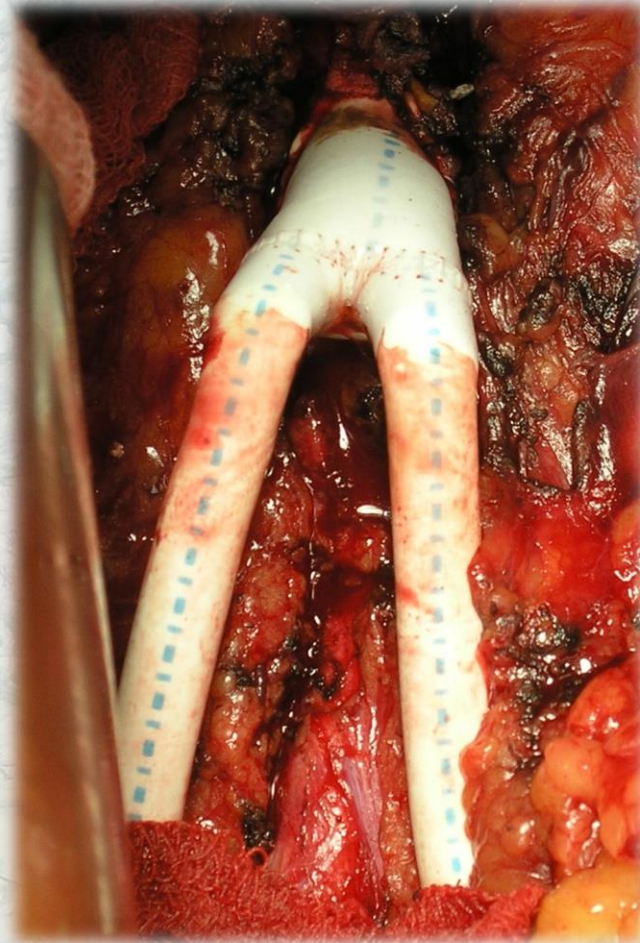
82.7%

ENDO

86.0% (1 year)

80.0% (2 years)

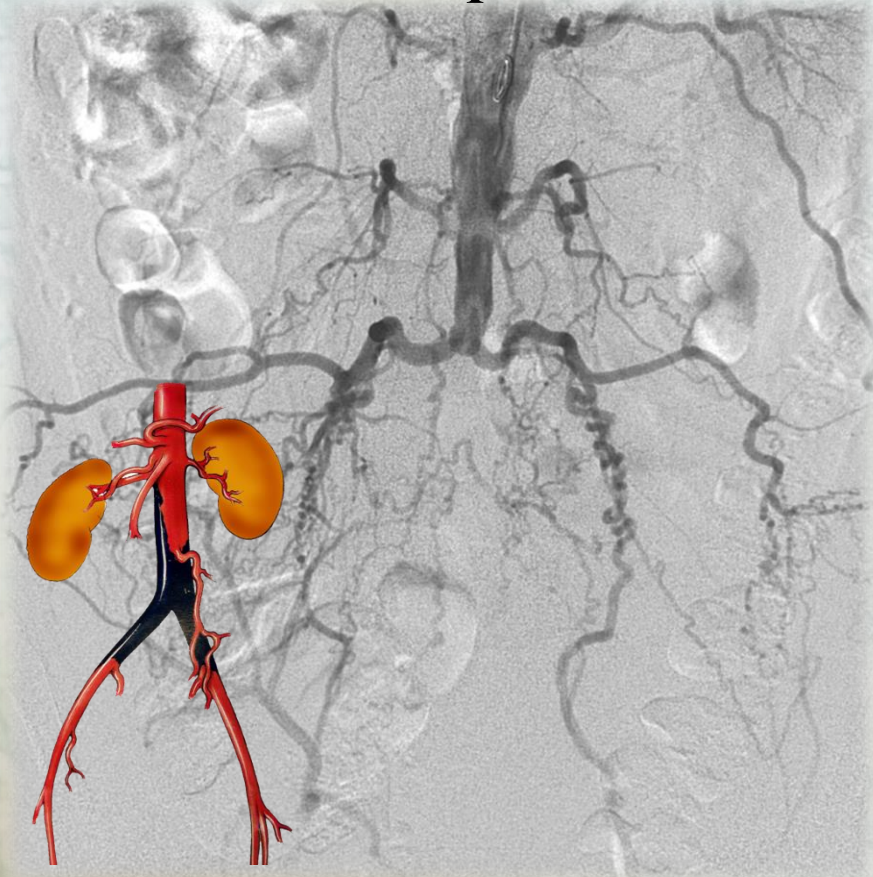
71.4% (3 years)



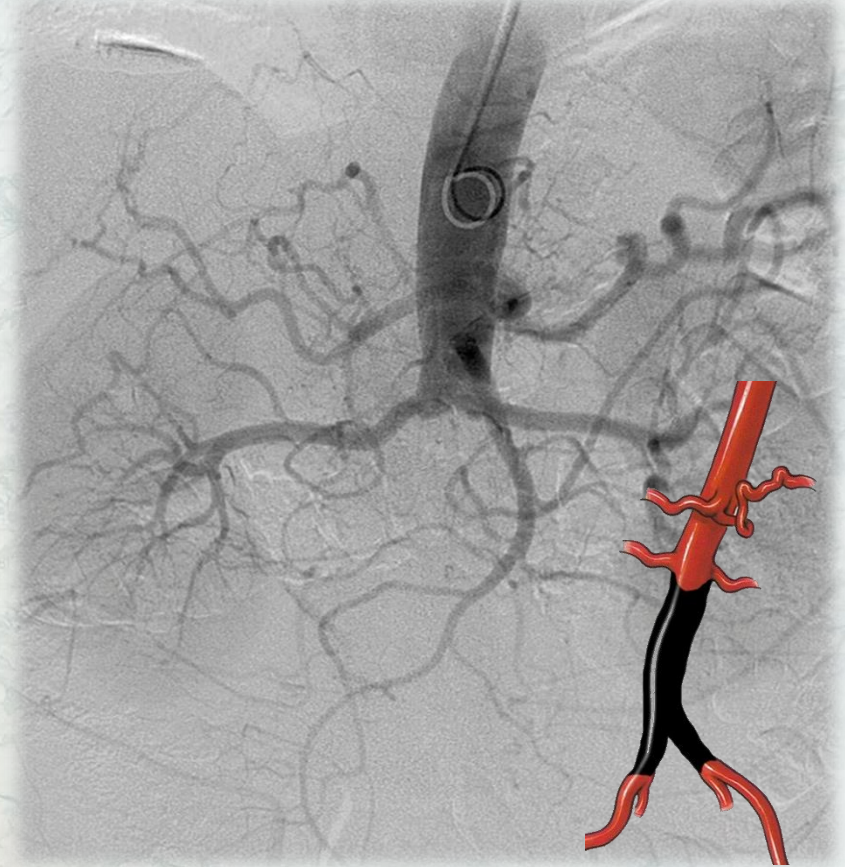
# Open Series OSR 1993-2017: 269 cases

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Distal Occlusion  
(161 pts.)

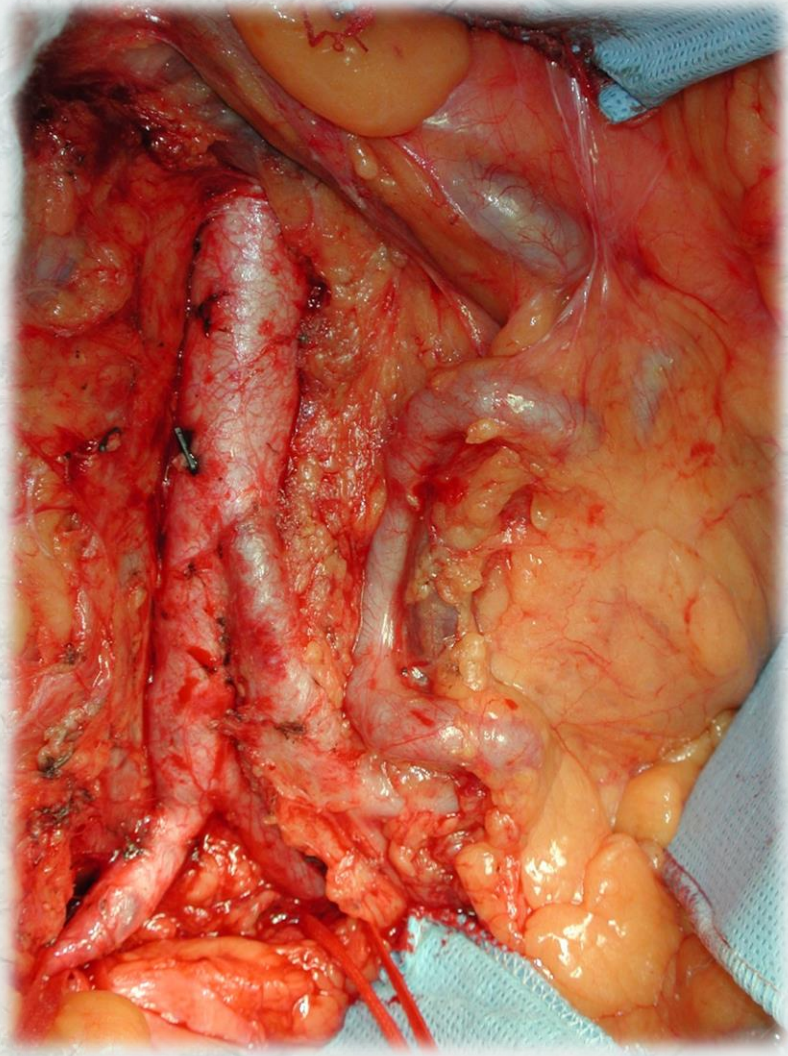
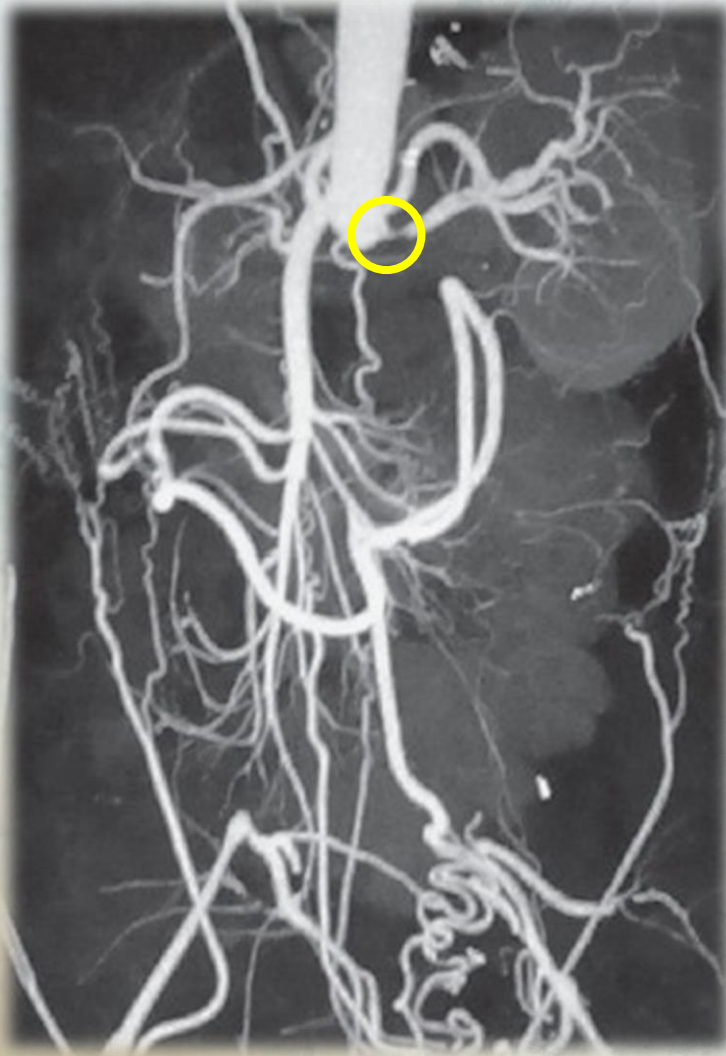


Juxtarenal Occlusion (108 pts.)



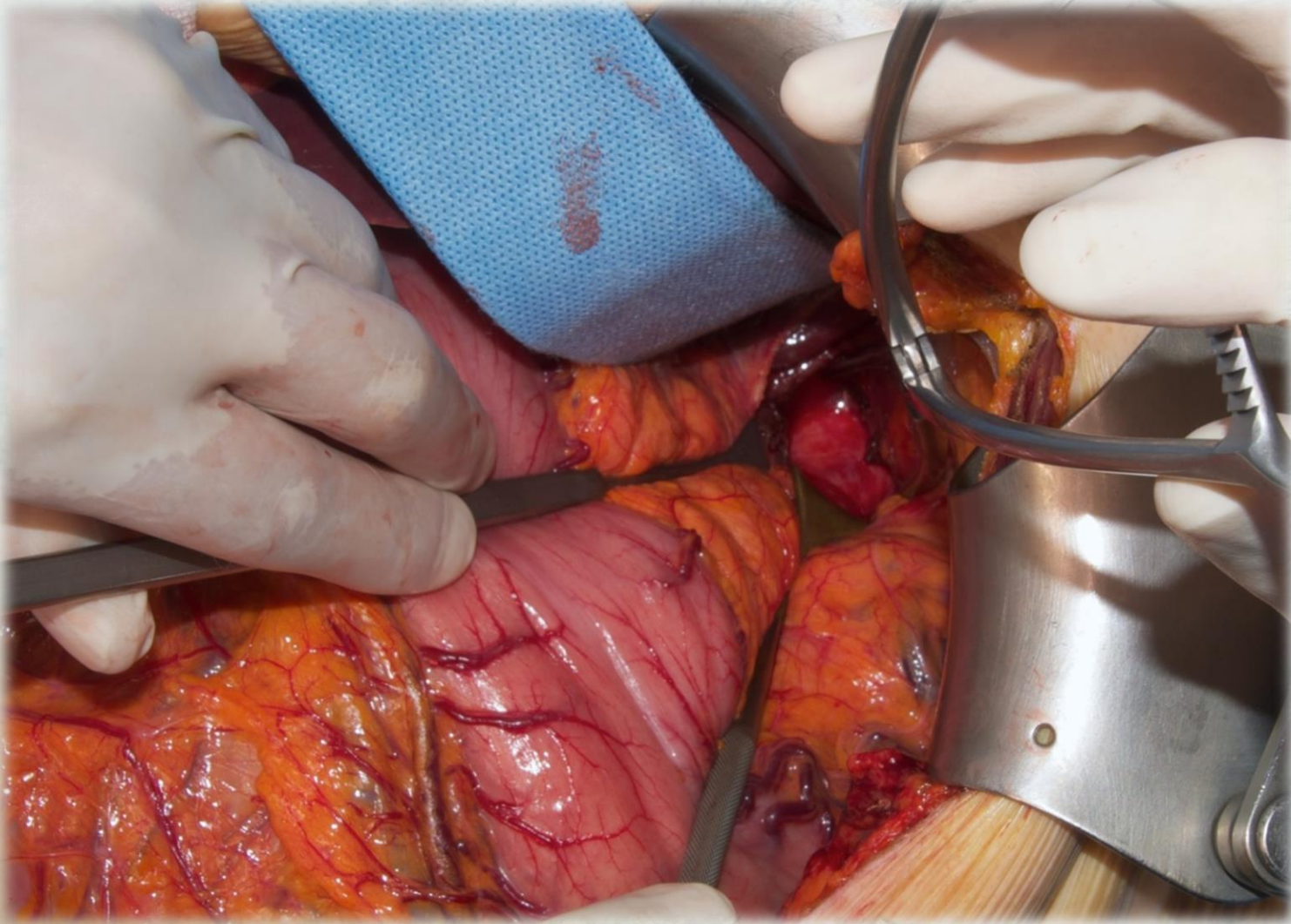
# Complex Anatomy

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# Supracoeliac Clamping

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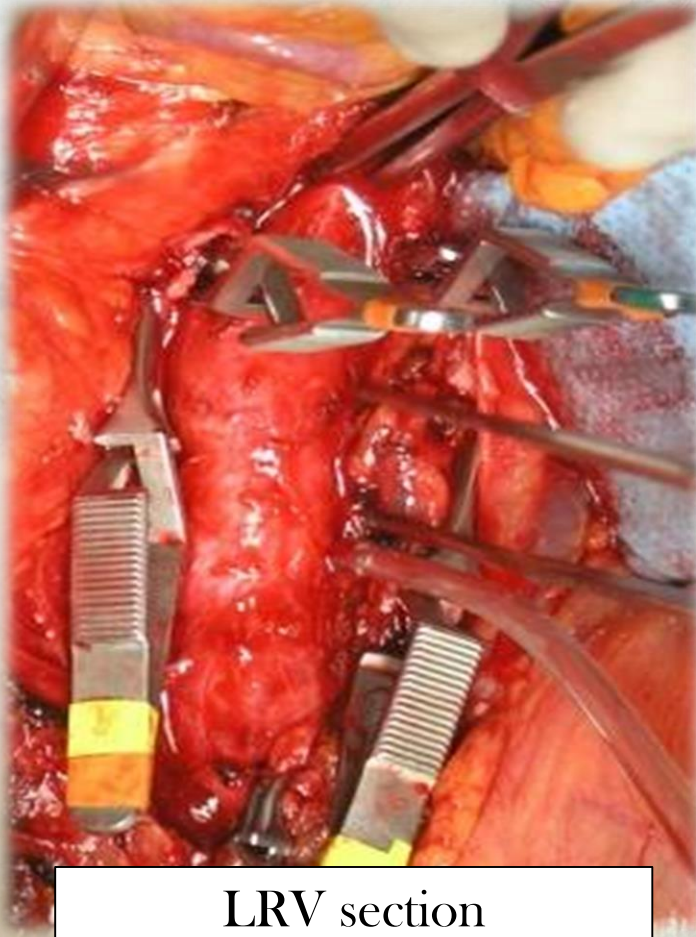


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# Suprarenal Clamping & Endarterectomy

## Bilateral Renal Clamping



LRV section

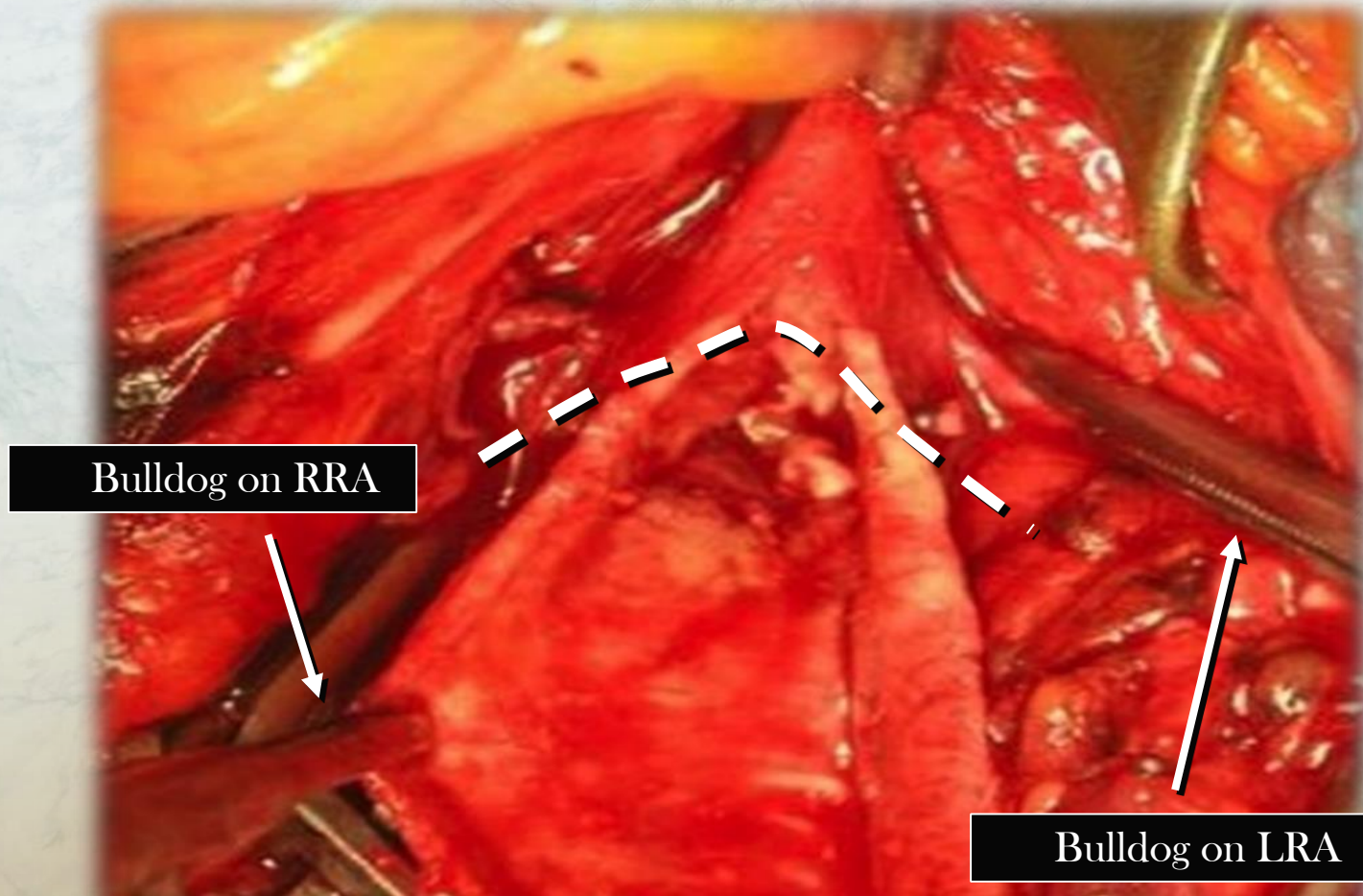


IMA clamp



# Technical Challenge

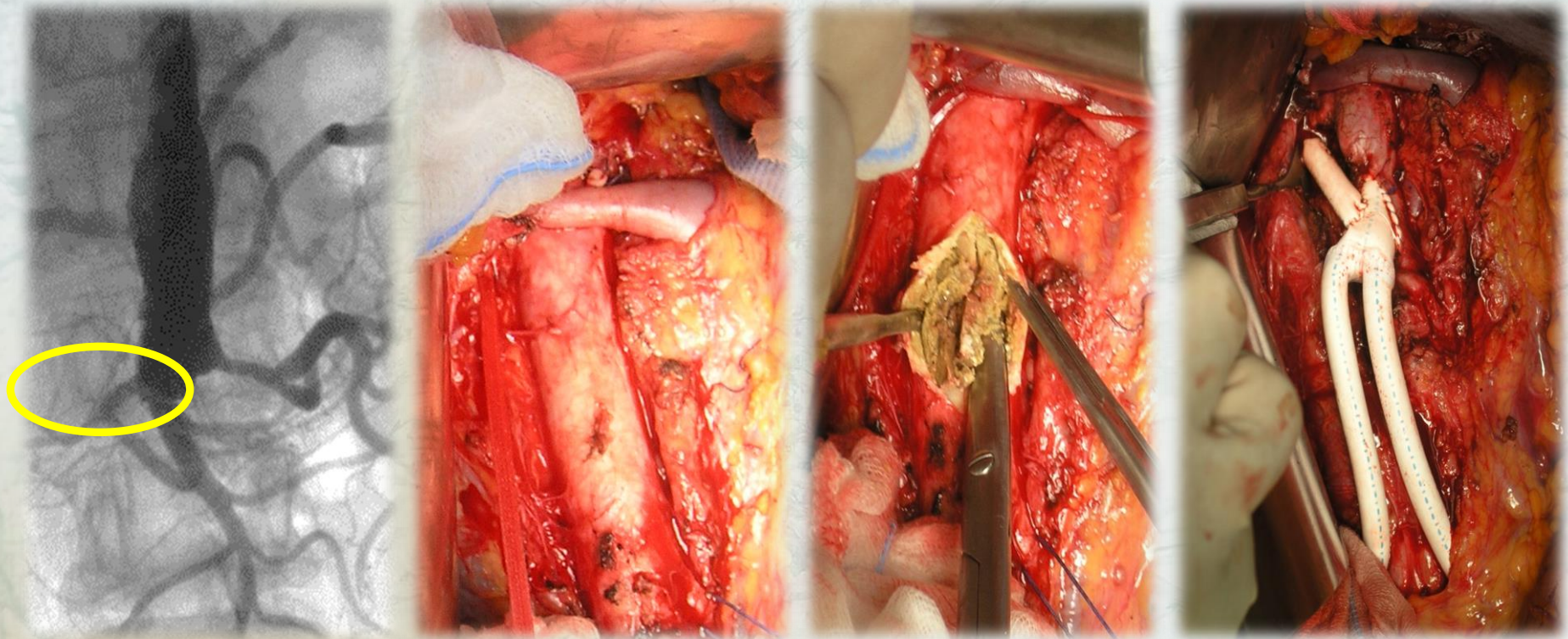
Endarterectomy extended to the renal arteries



# #1. Aorto Bifemoral Bypass: 52 cases

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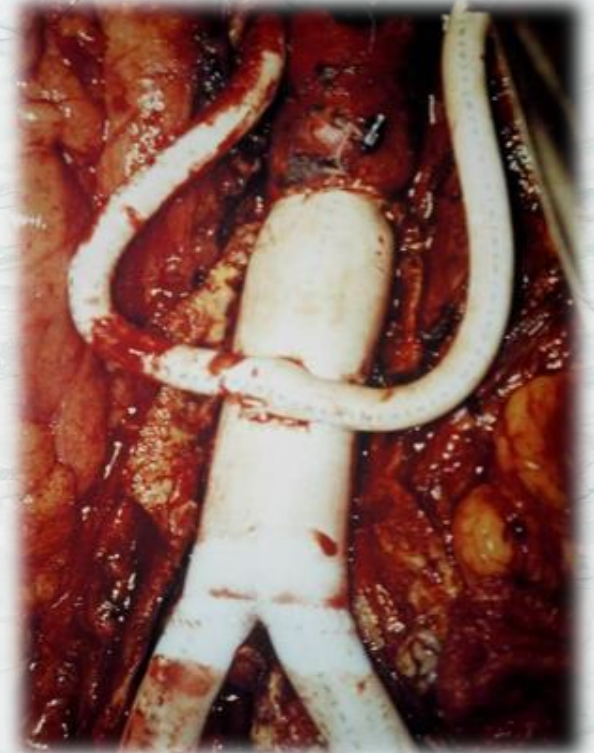
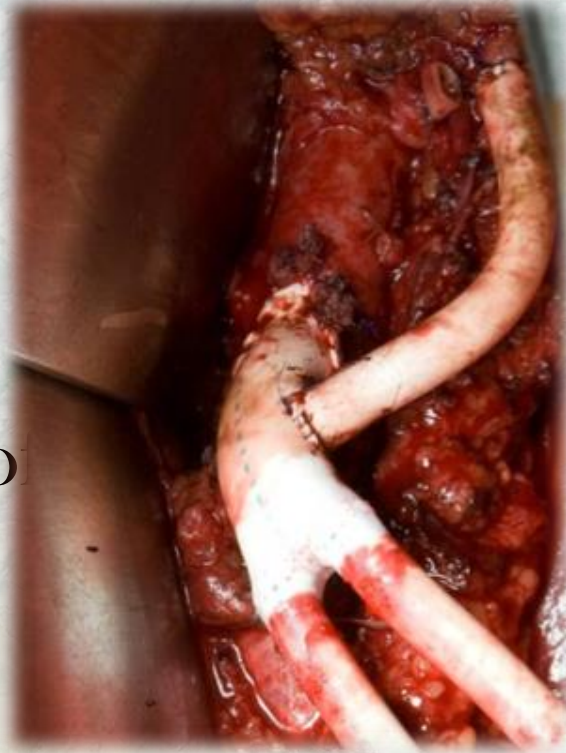
Associated renal bypass in 8/52 cases



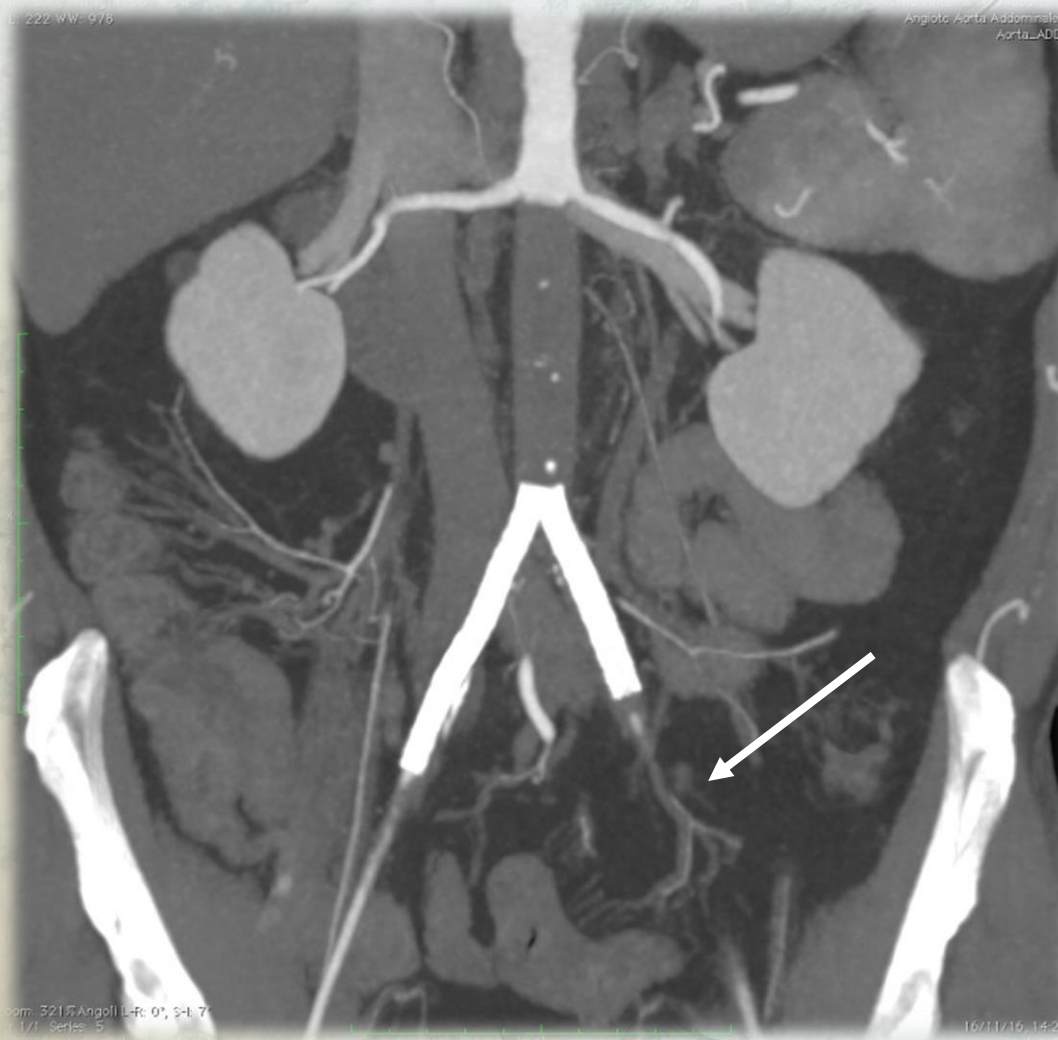
# Associated Renal Arteries Occlusion

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Improved renal  
function or  
hypertension  
control in 68% of  
cases

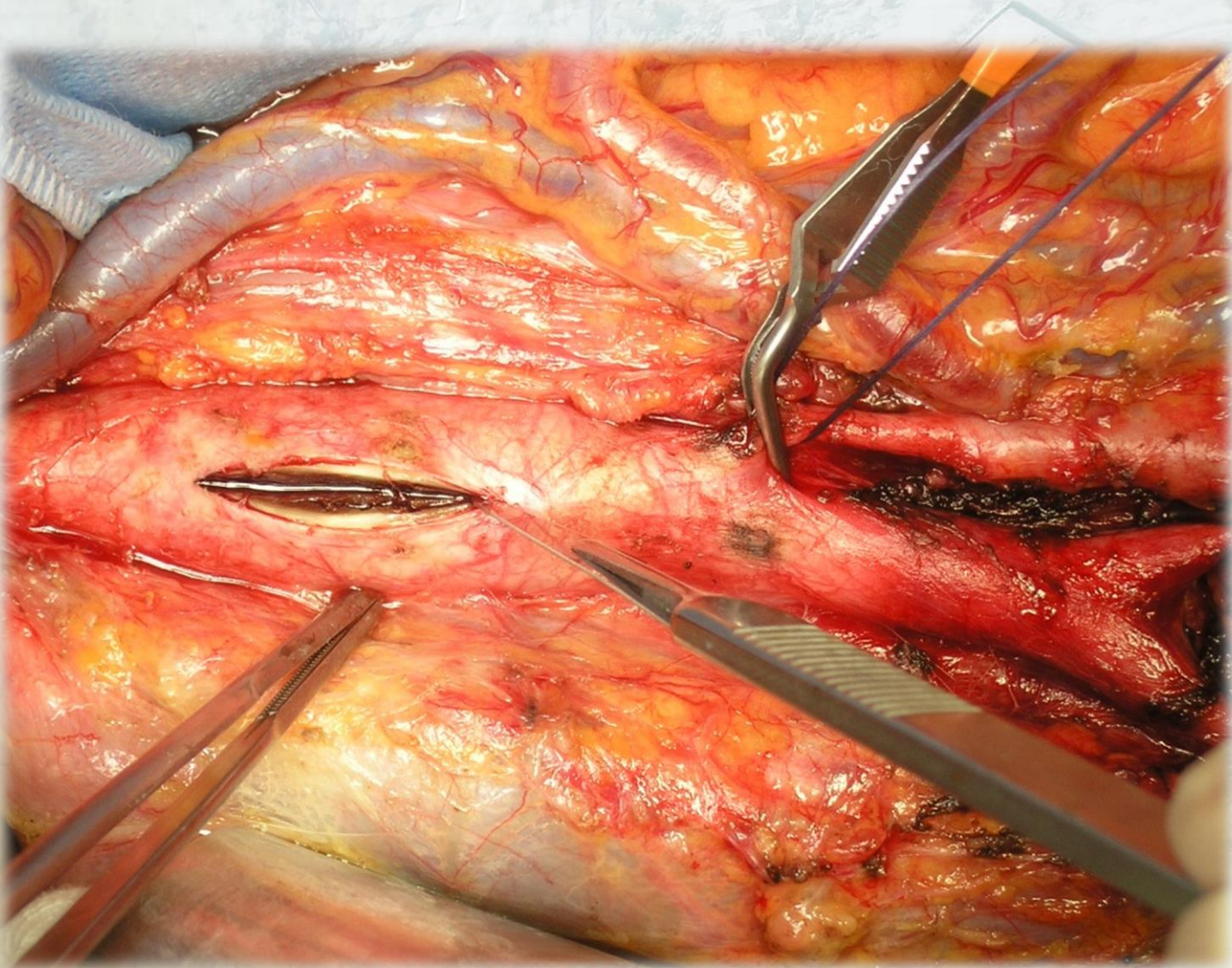


# Juxtarenal Occlusion After Kissing Stenting



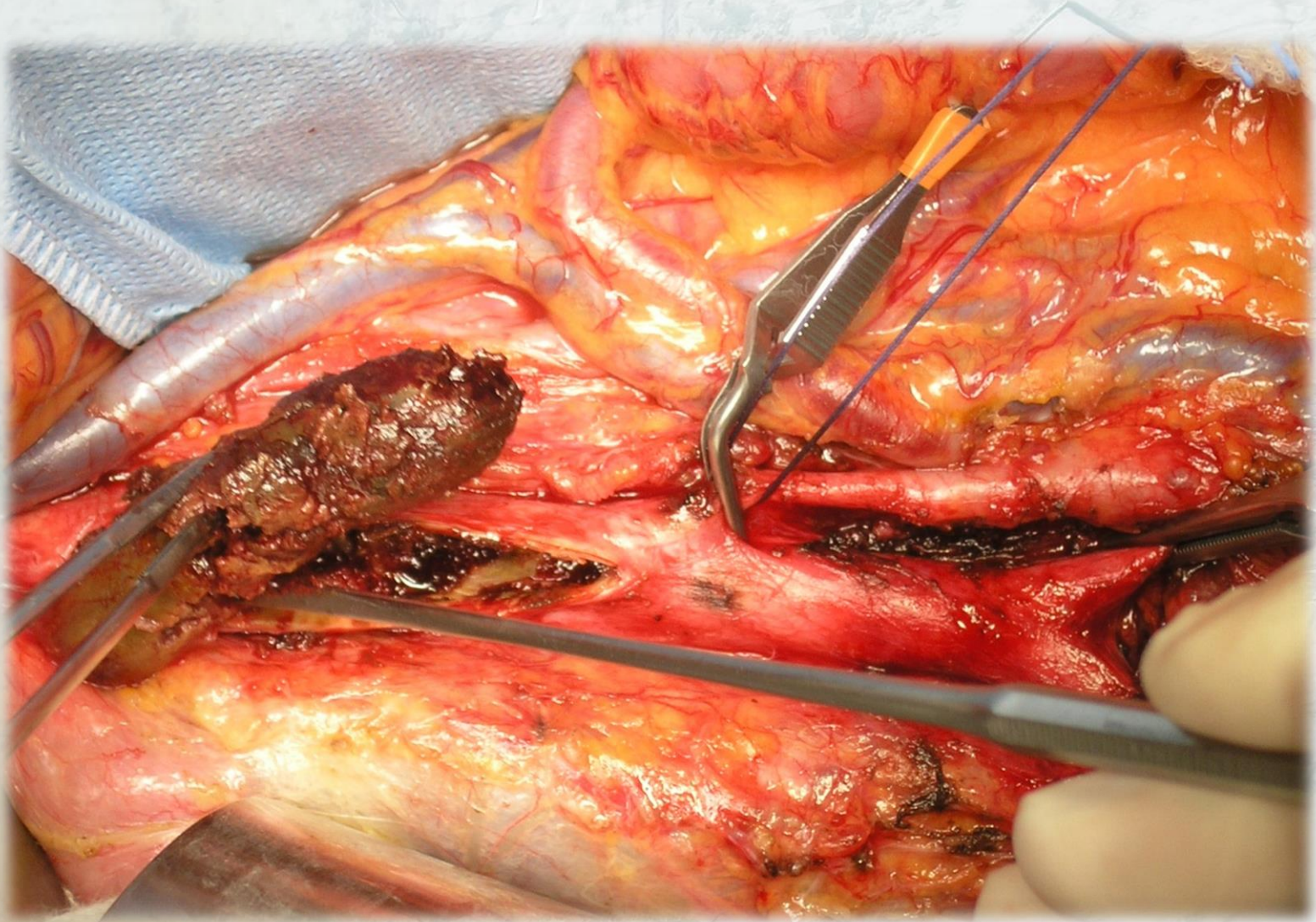
# Surgical Bailout

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# Thrombectomy

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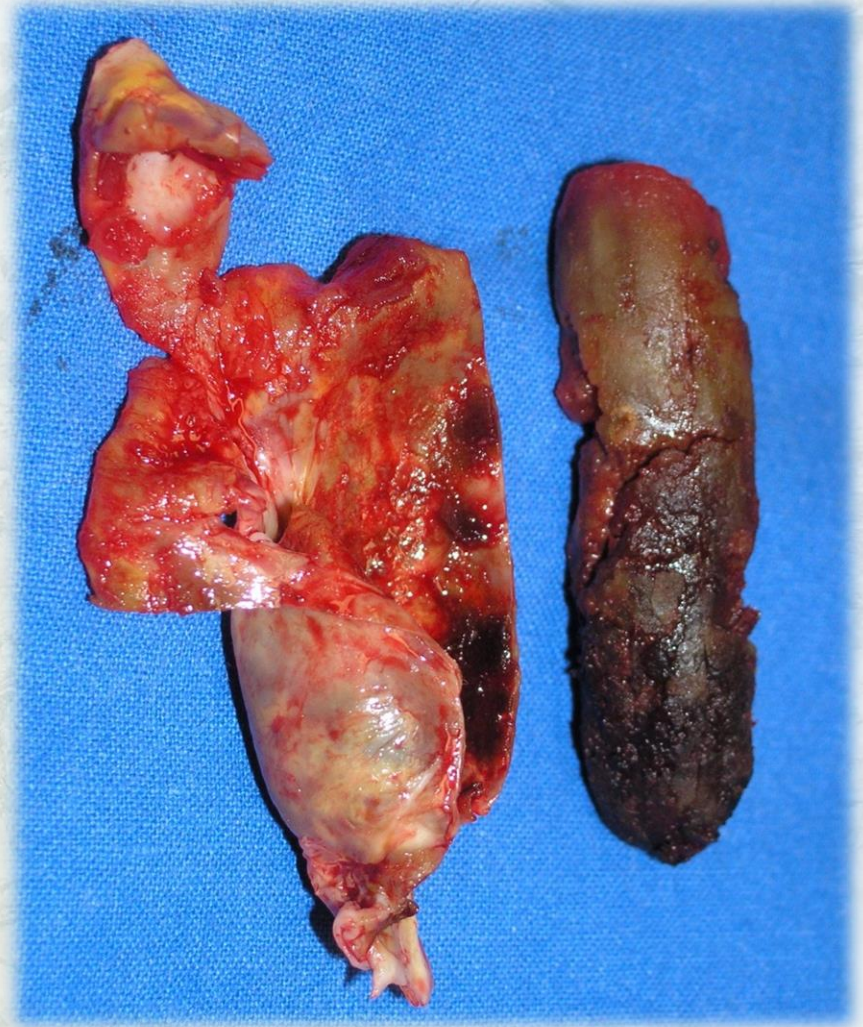
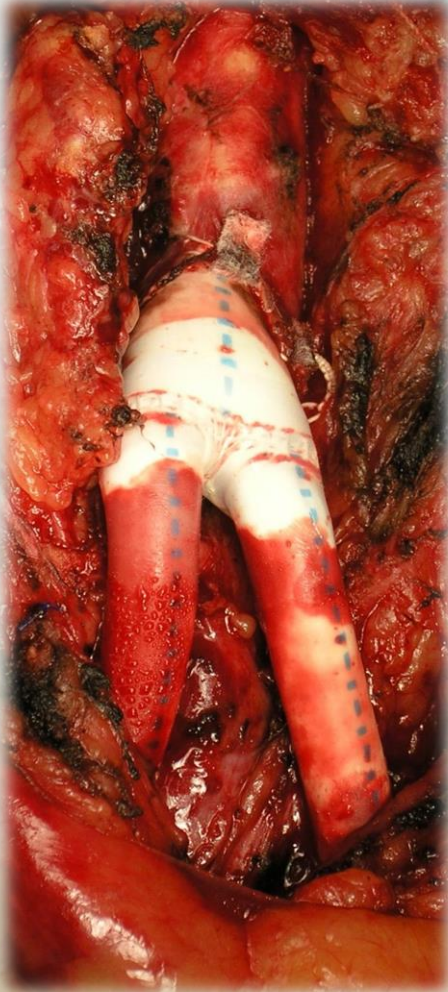


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# Aorto Bifemoral Bypass

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# Aorto Bifemoral Bypass

**OSR Series '93 -'17: 194 cases**

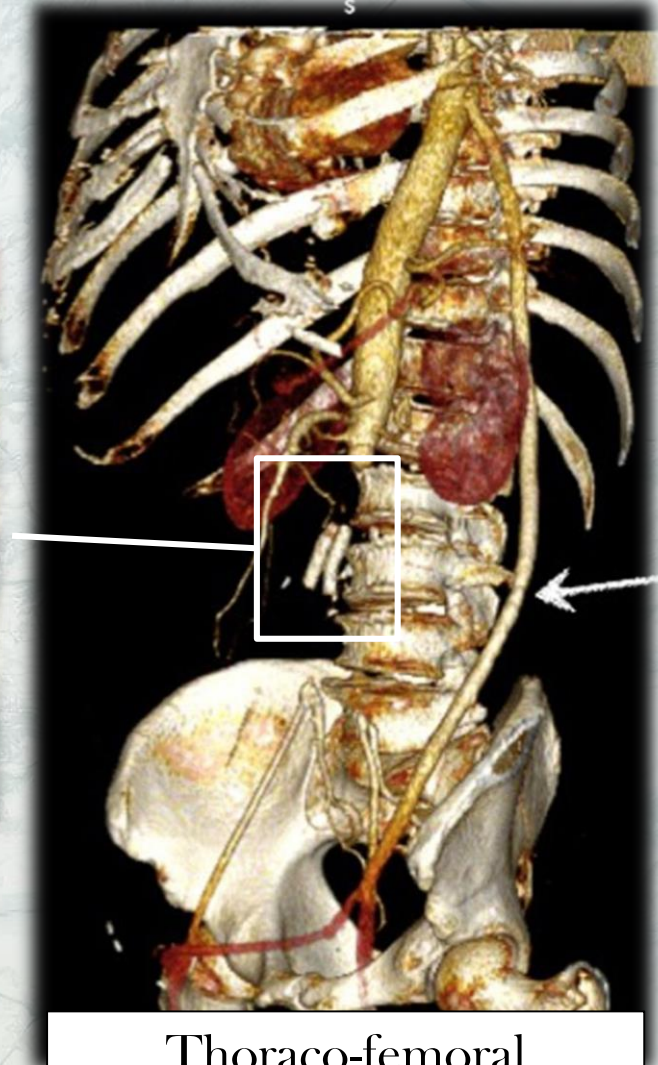
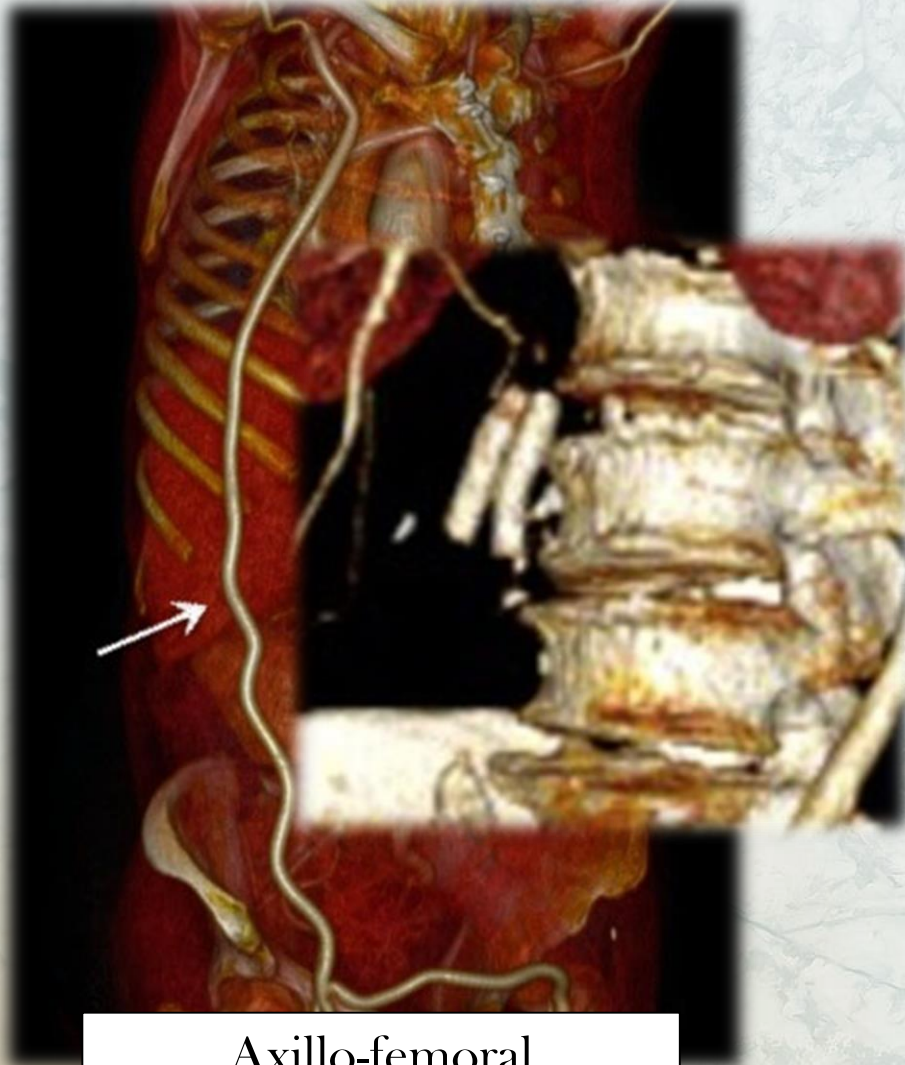
**Primary Patency: 95.1%**

Mean FU 128  $\pm$  16 months

| Distal Occlusion : 142   | N (%)    |
|--------------------------|----------|
| Mortality                | 2 (1.4)  |
| Cardiac Complications    | 5 (3.5)  |
| Renale Failure (ARD > 2) | 6 (4.2)  |
| Juxtarenal Occlusion: 52 | N (%)    |
| Mortality                | 2 (3.8)  |
| Cardiac Complications    | 4 (7.7)  |
| Renal Failure (ARD > 2)  | 6 (11.5) |

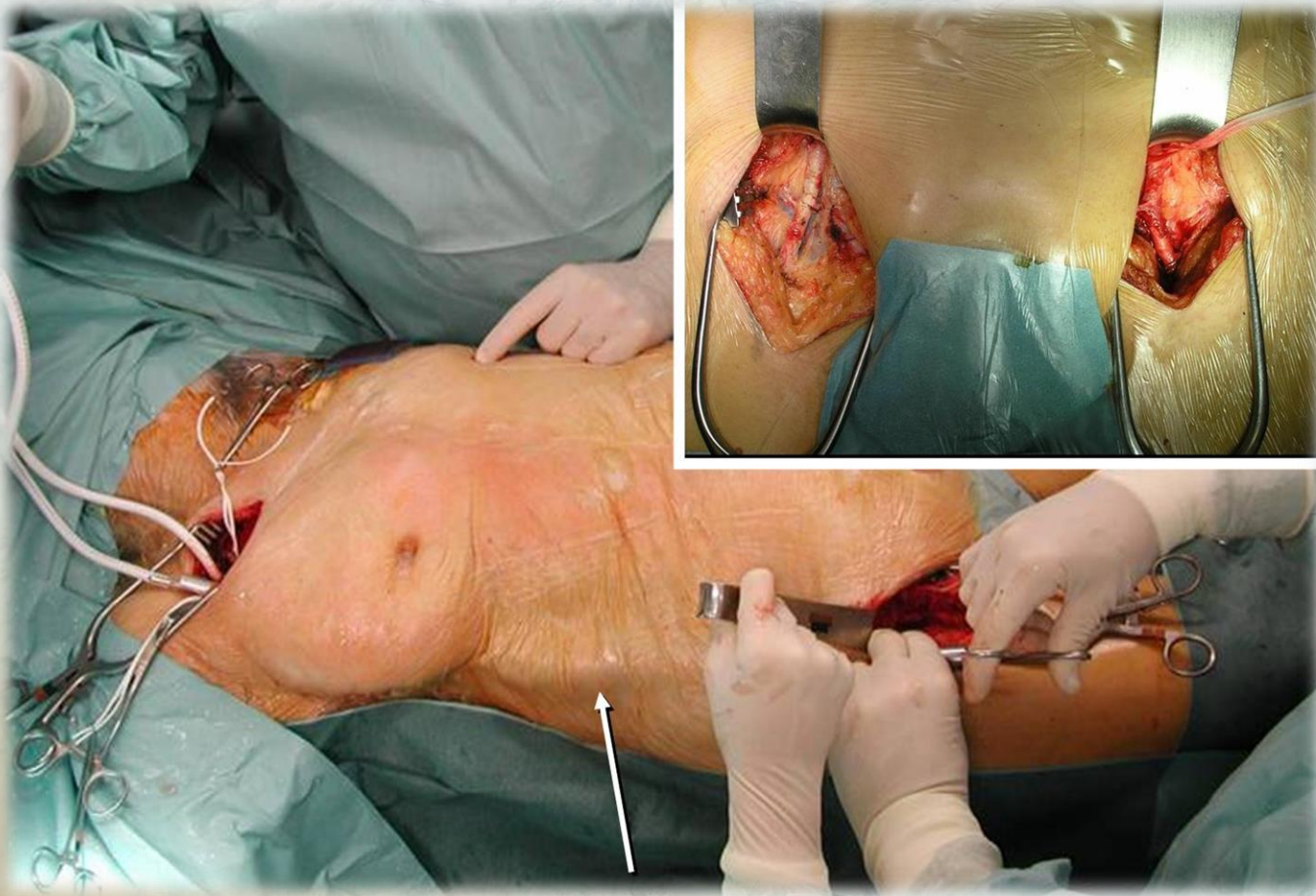


## #2. Extra-Anatomic Bypass



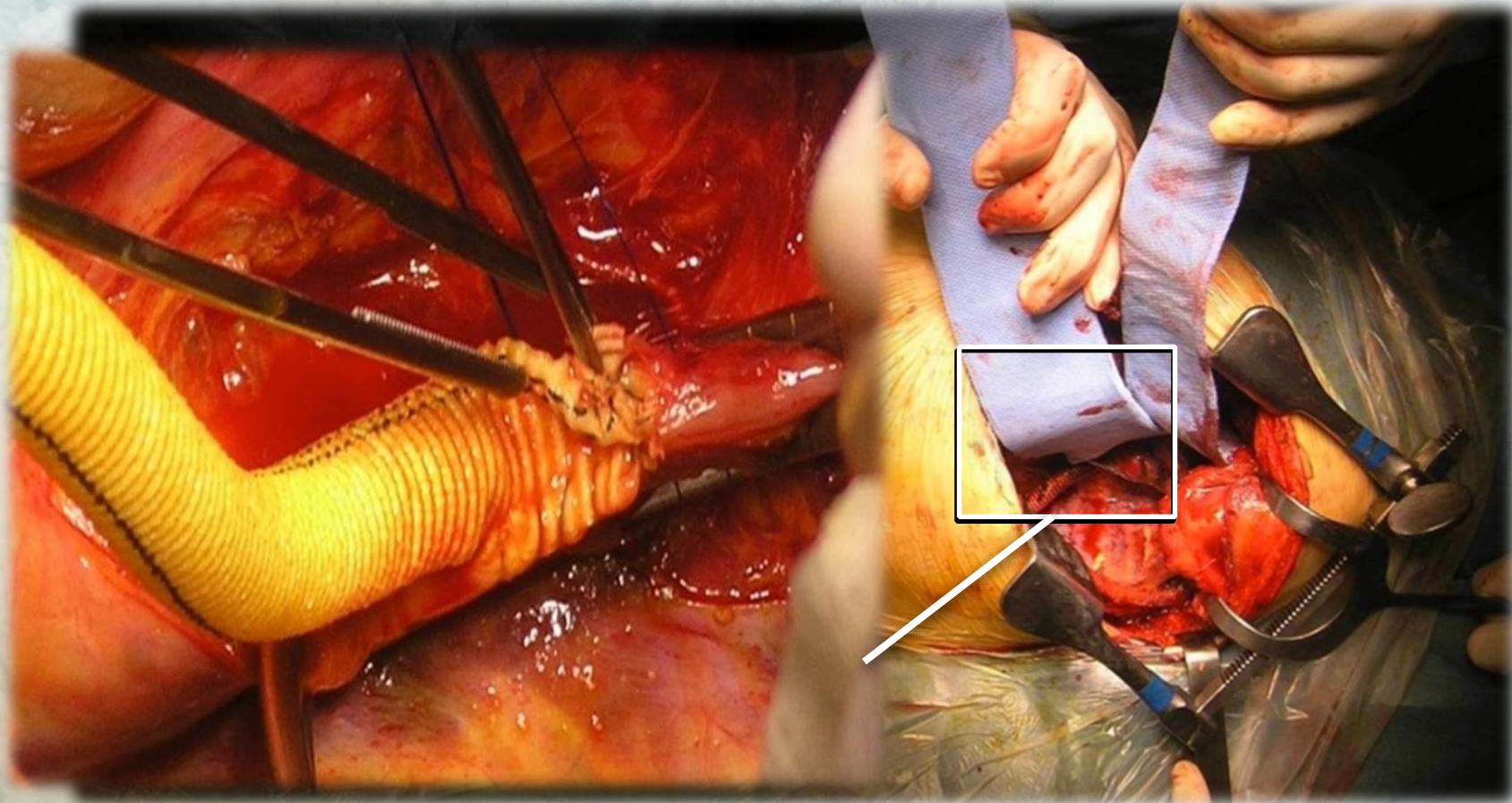
# Axillo-Femoral Bypass: 36 Cases

Elderly, Unfit, ↓ FE, COPD



# Thoraco-Femoral Bypass: 8 cases

Young, Hostile Abdomen



# Extra-Anatomic Bypass

**OSR Series '93 -'17: 44 cases**

**Primary Patency: 83.5%**

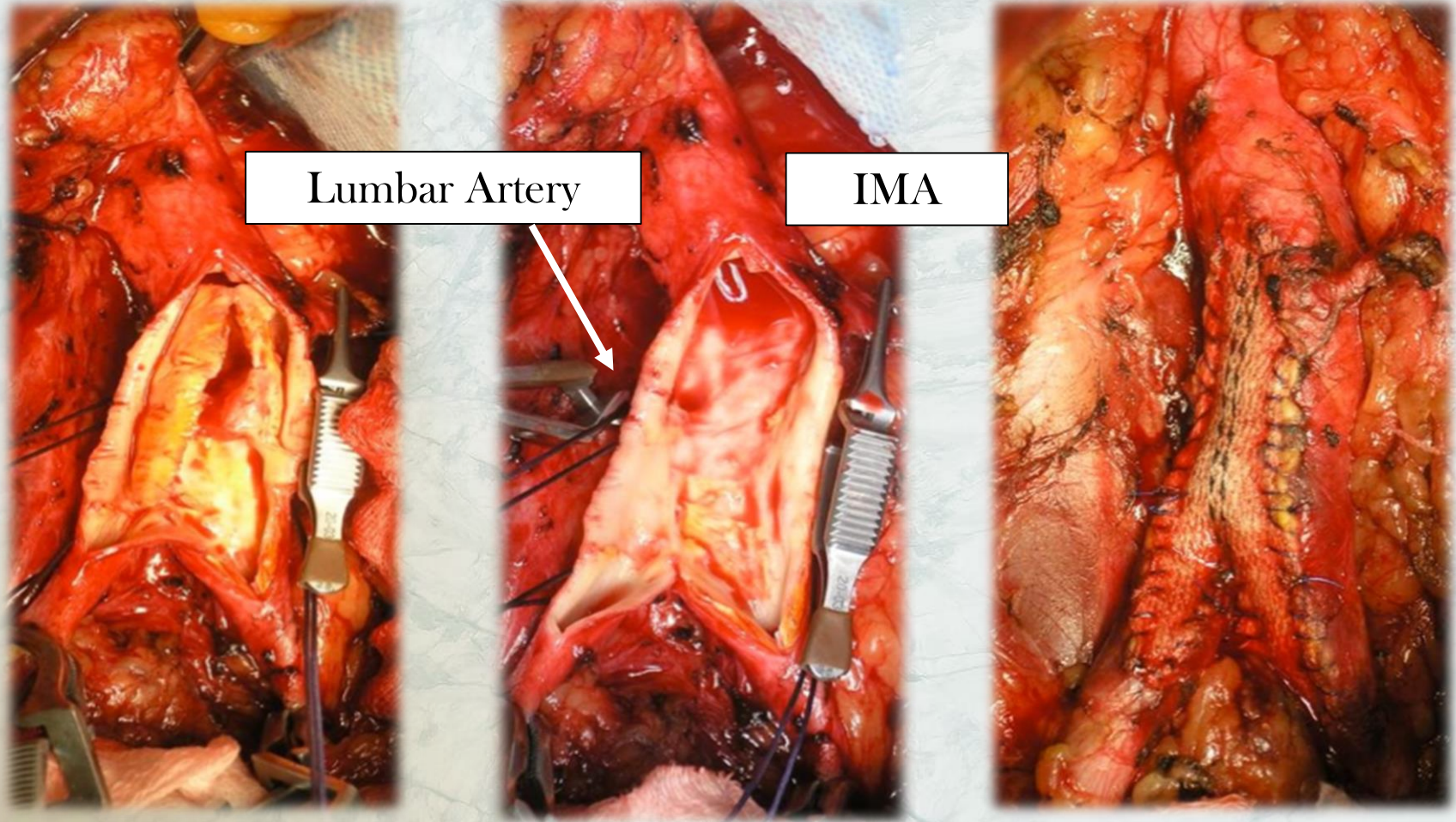
Mean FU: 136  $\pm$  13 months

| <b>Axillofemoral: 36</b> | <b>N (%)</b> |
|--------------------------|--------------|
| Mortality                | 0            |
| Cardiac Complications    | 2 (5.5)      |
| Renal Complic (ARD > 2)  | 3 (8.3)      |
| <b>Thoracofemoral: 8</b> | <b>N (%)</b> |
| Mortality                | 0            |
| Cardiac Complications    | 0            |
| Renal Failure (ARD > 2)  | 1 (12.5%)    |

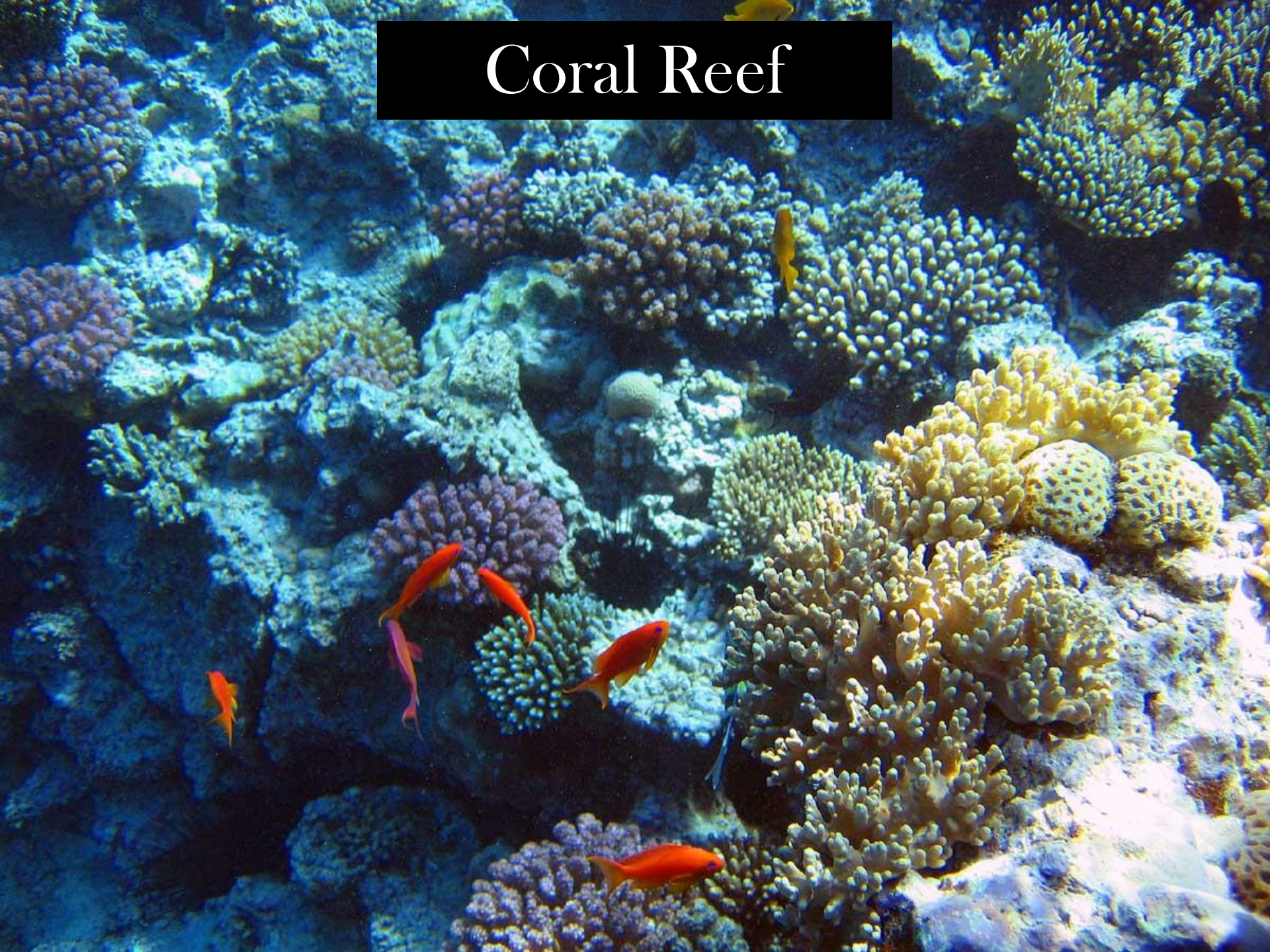


# #3. Patch Endarterectomy

Young, Limited Disease, ↓ Risk Of Infection

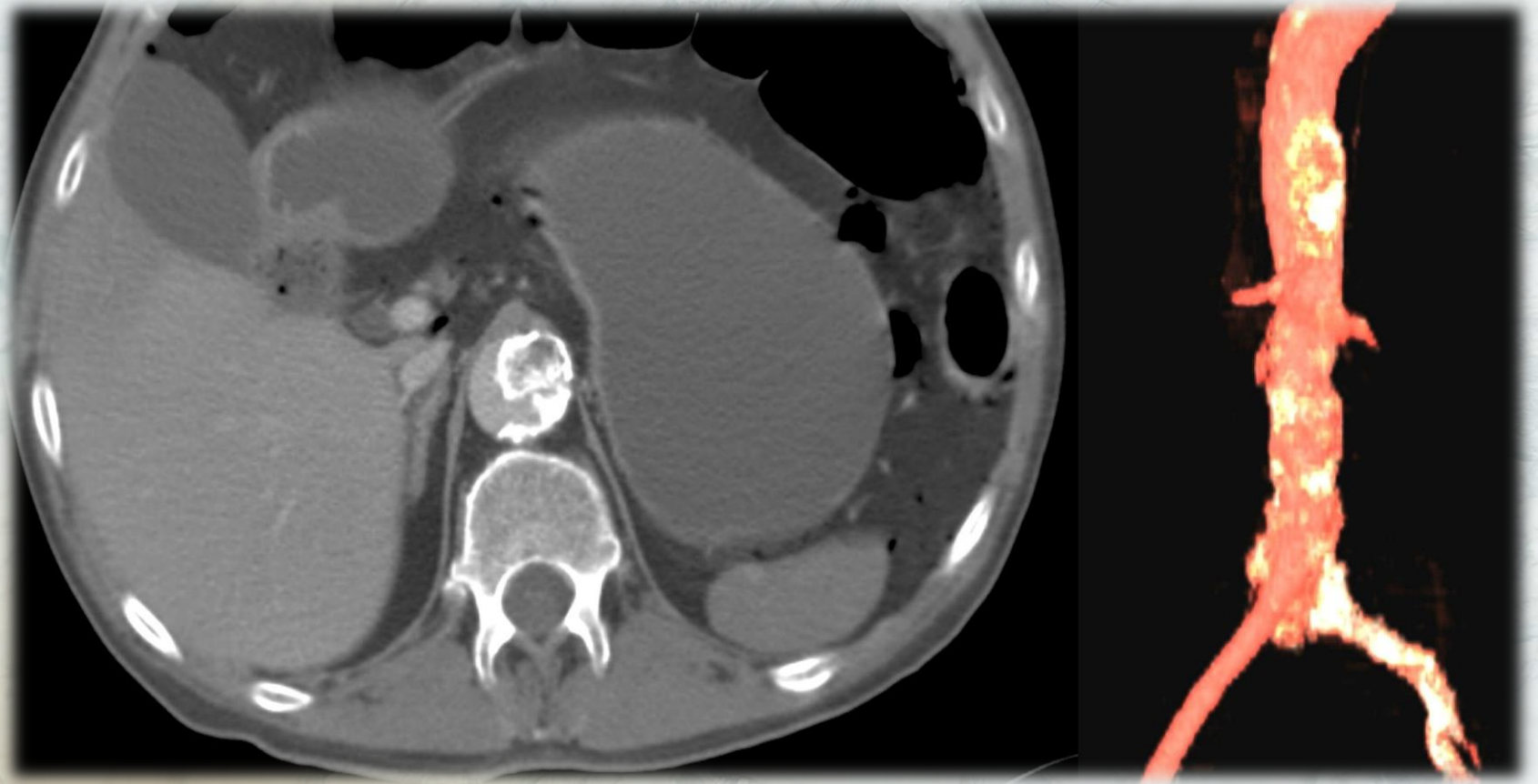


# Coral Reef



# Coral Reef

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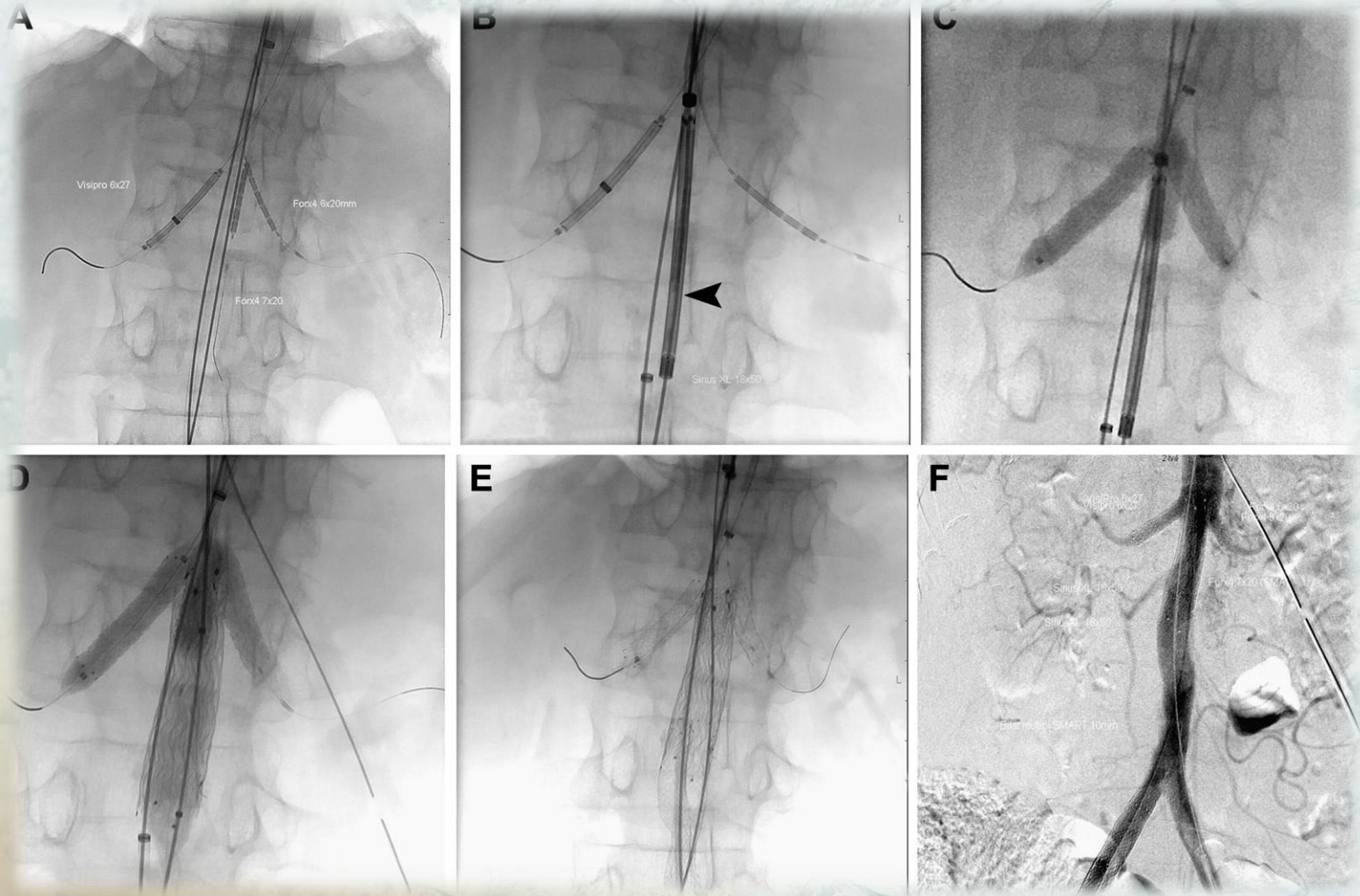


# Coral Reef

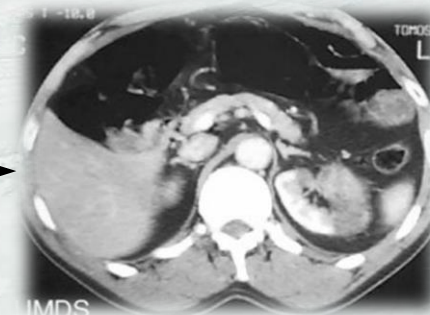
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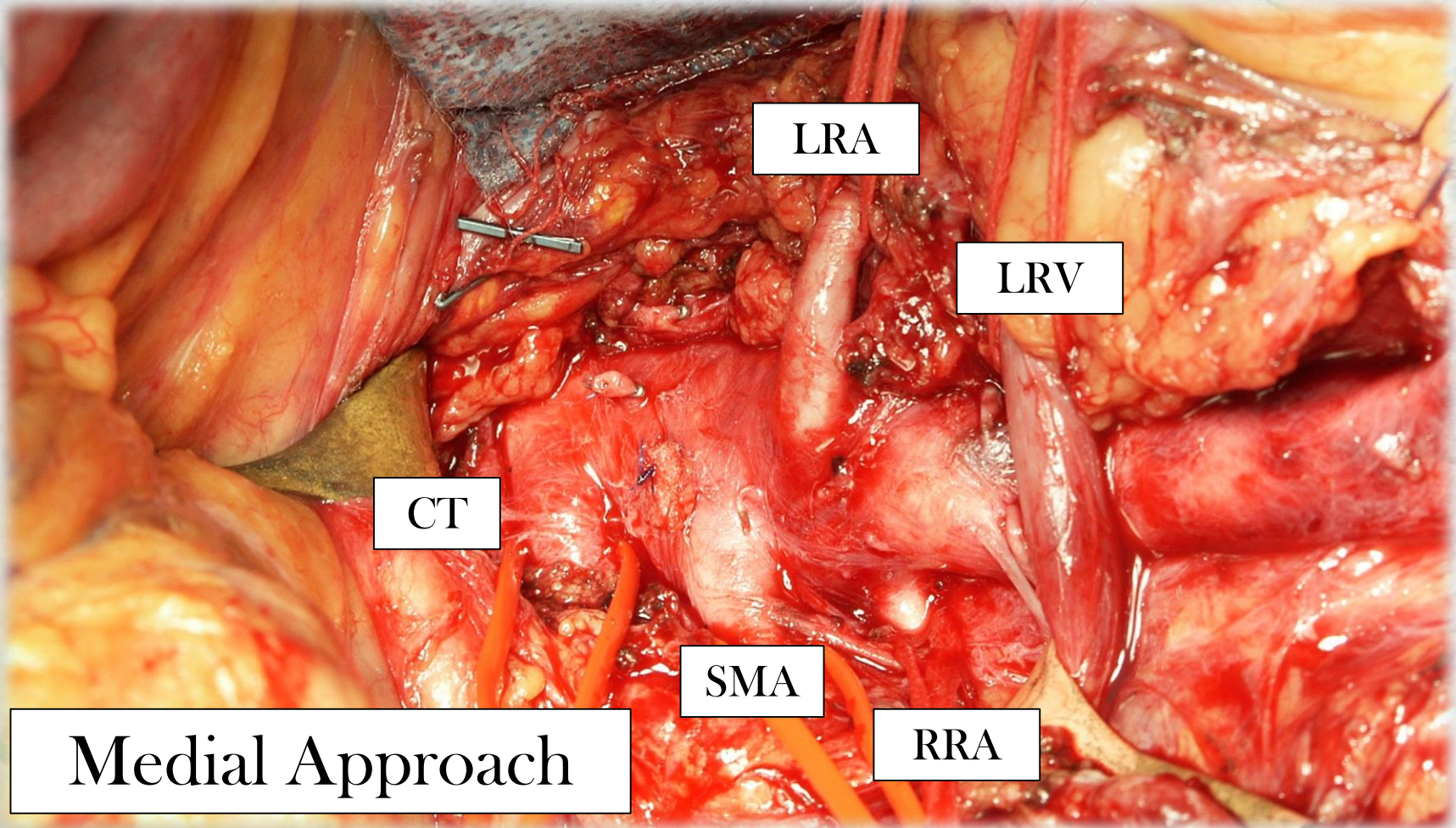
# Coral Reef: Chimney Graft



# Embolic Risk

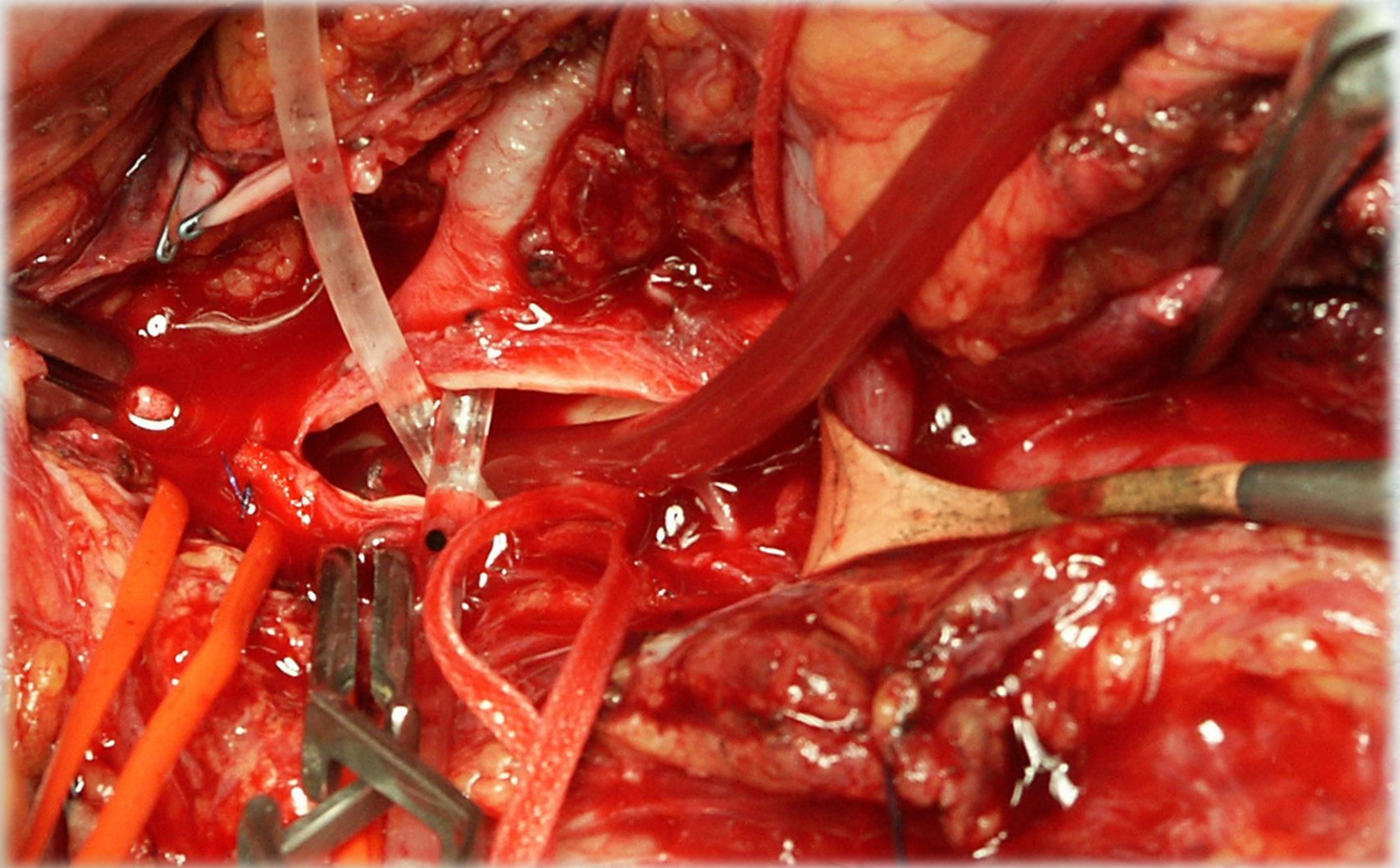


# Our First Choice: Open Surgery



# Endarterectomy & Renal Perfusion

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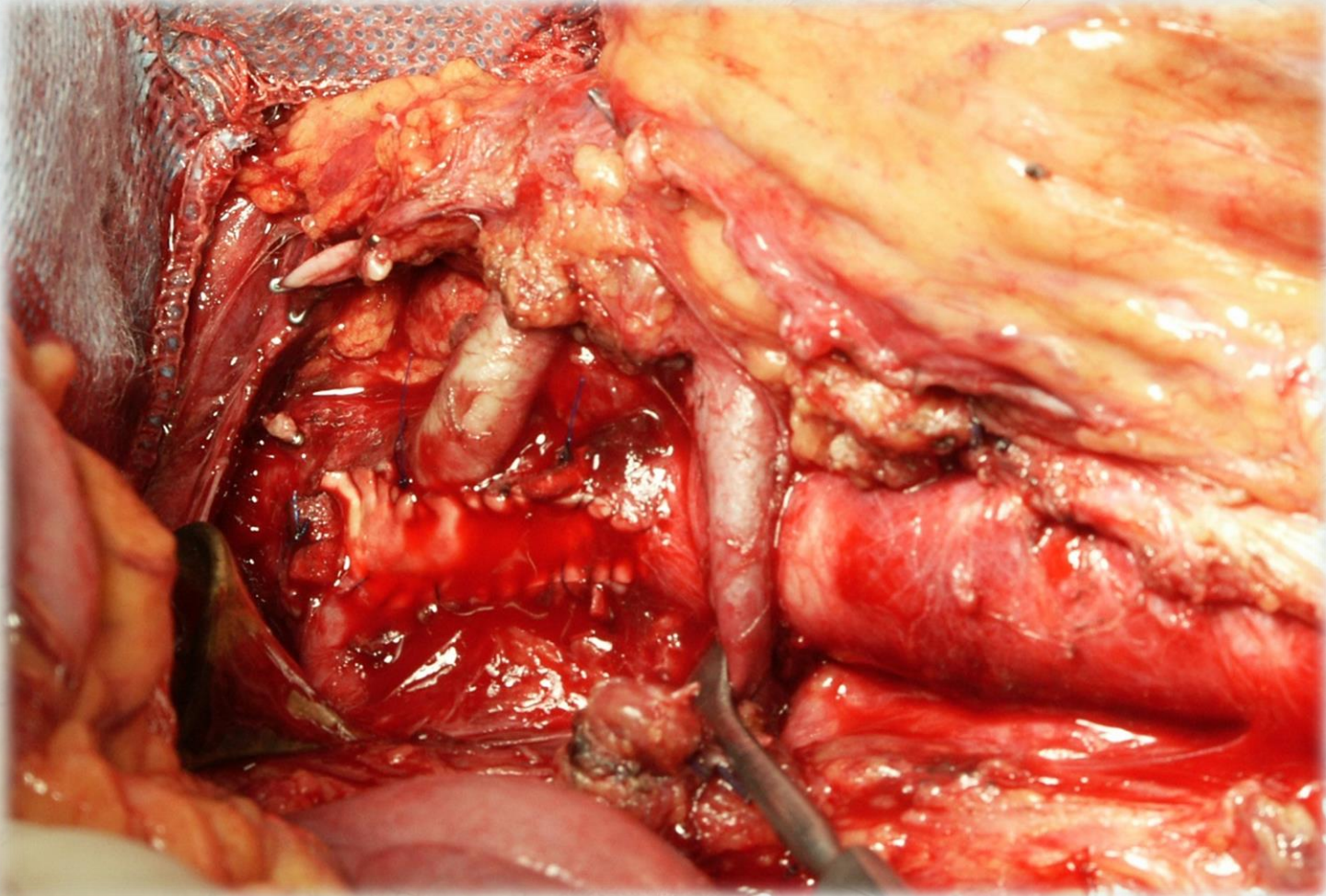


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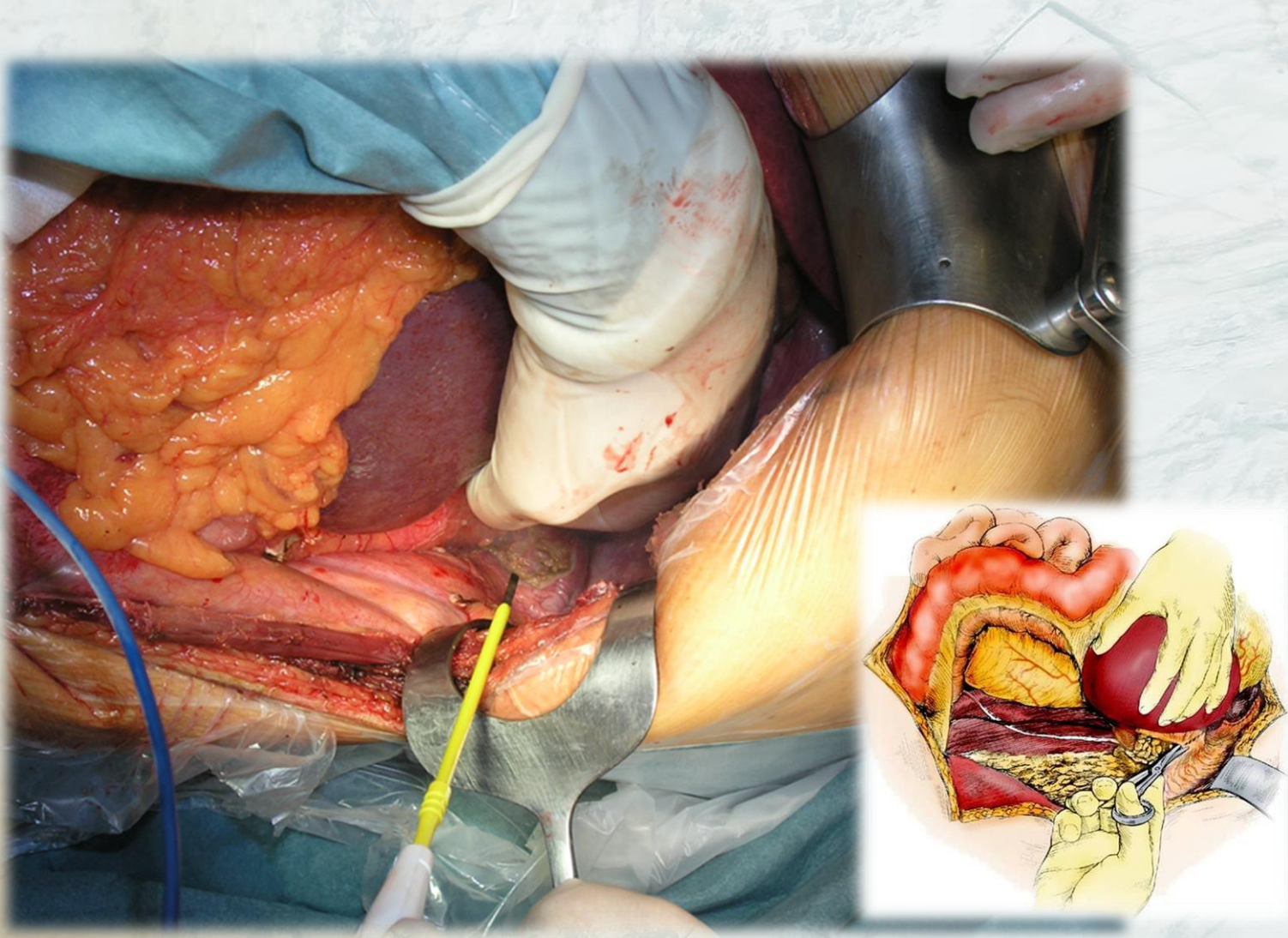
# Patch Aortoplasty

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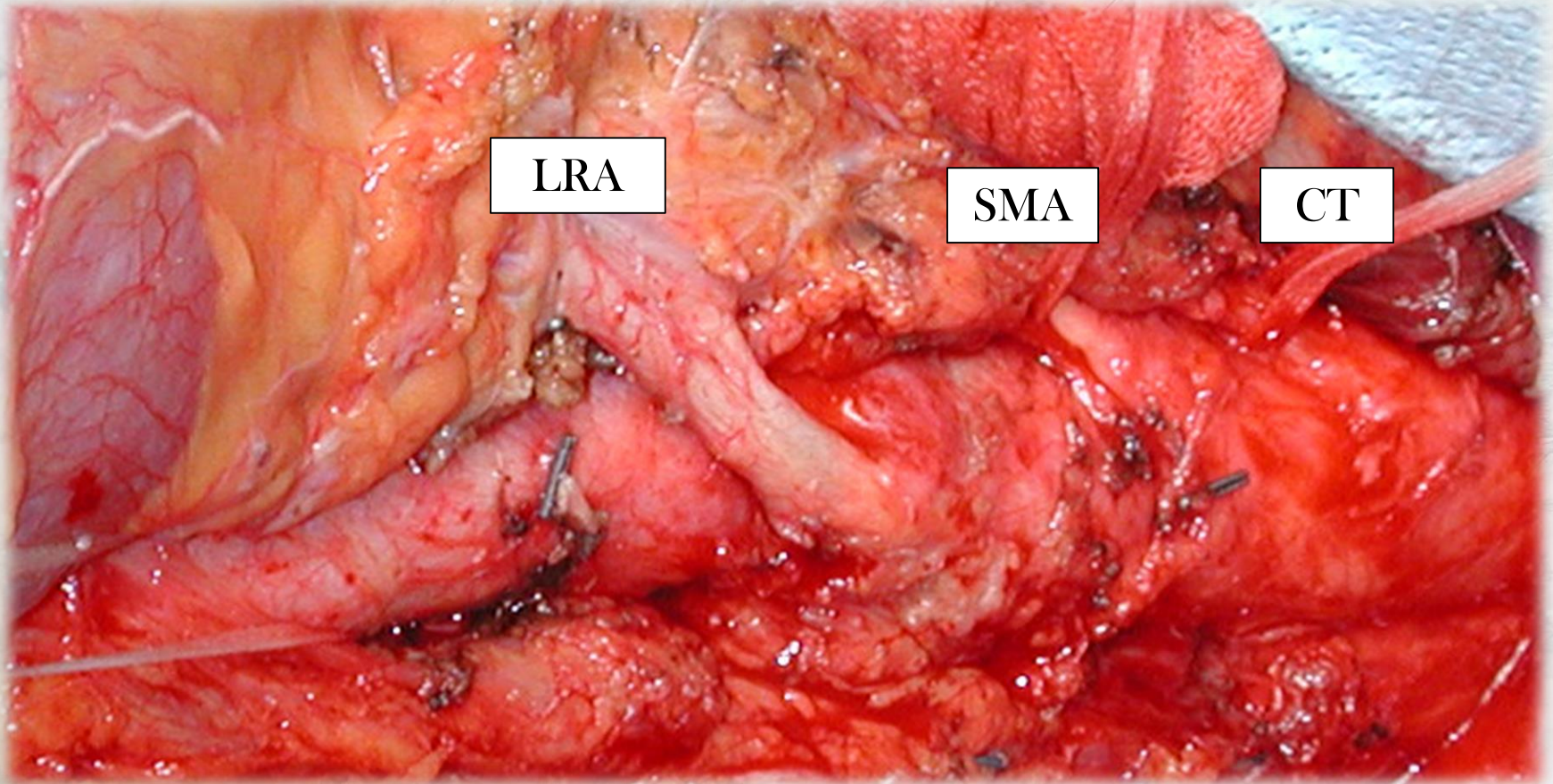
# Extensive Disease: Visceral Rotation

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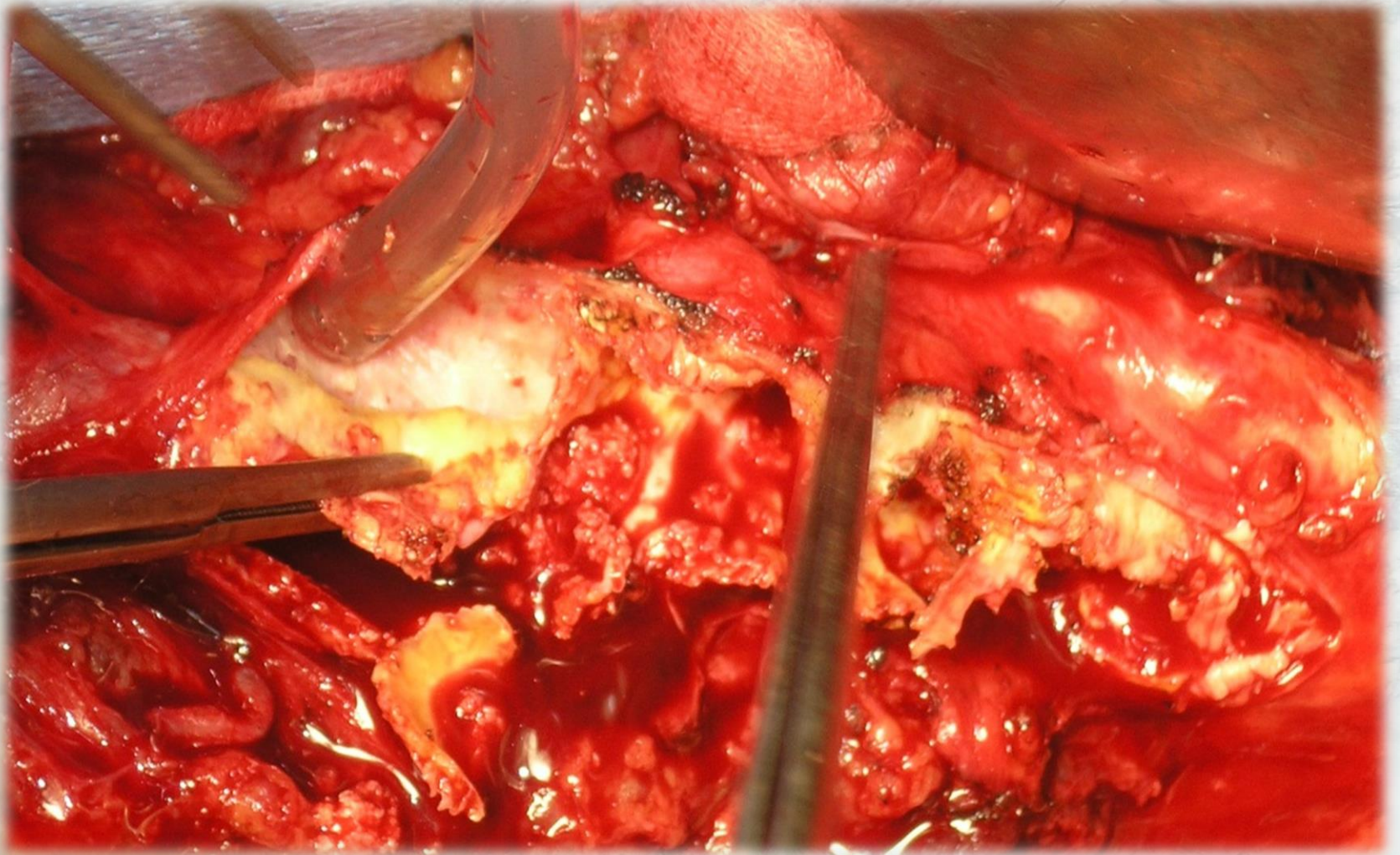
# Aortic Exposure

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# Endarterectomy

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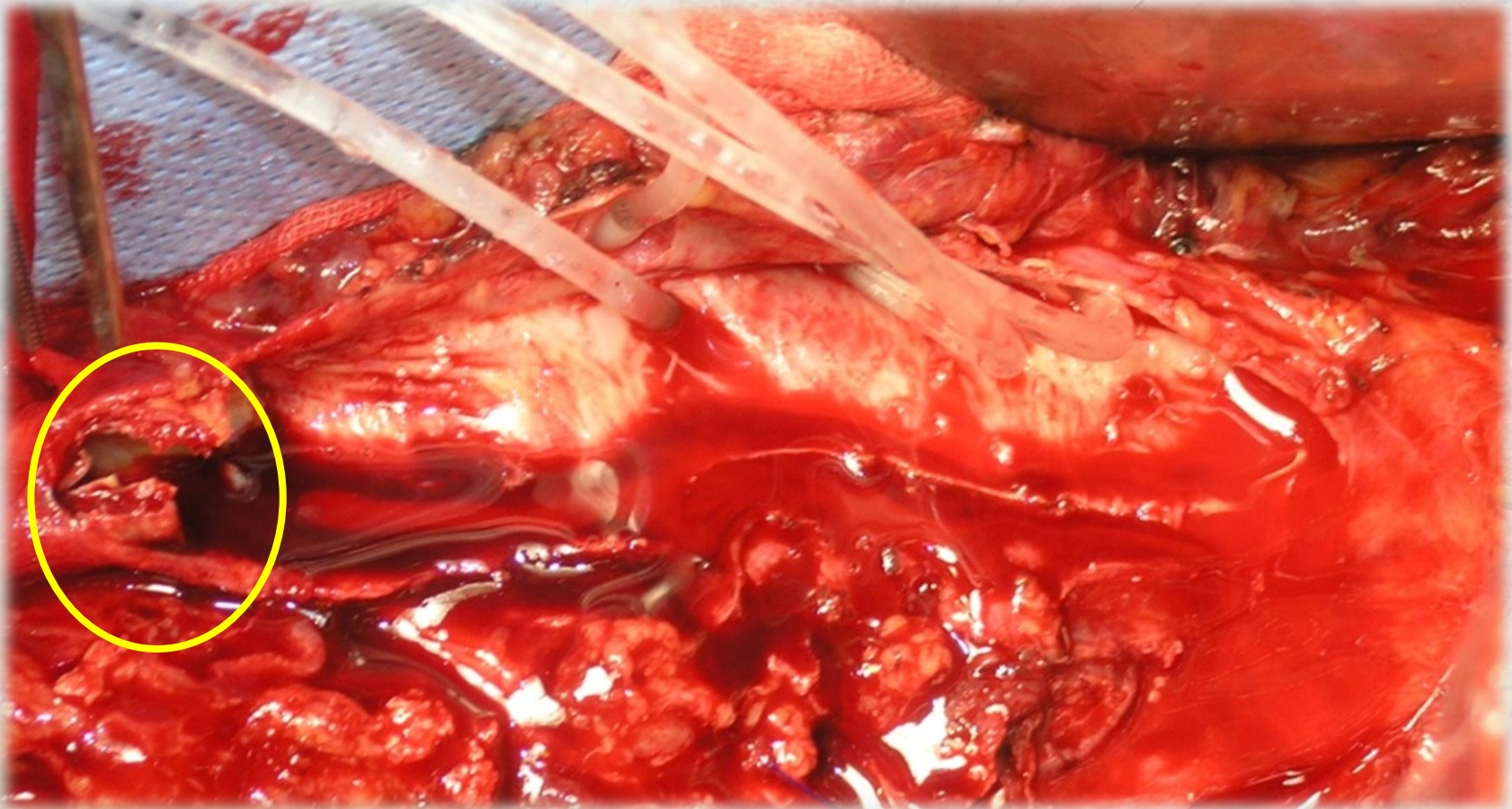


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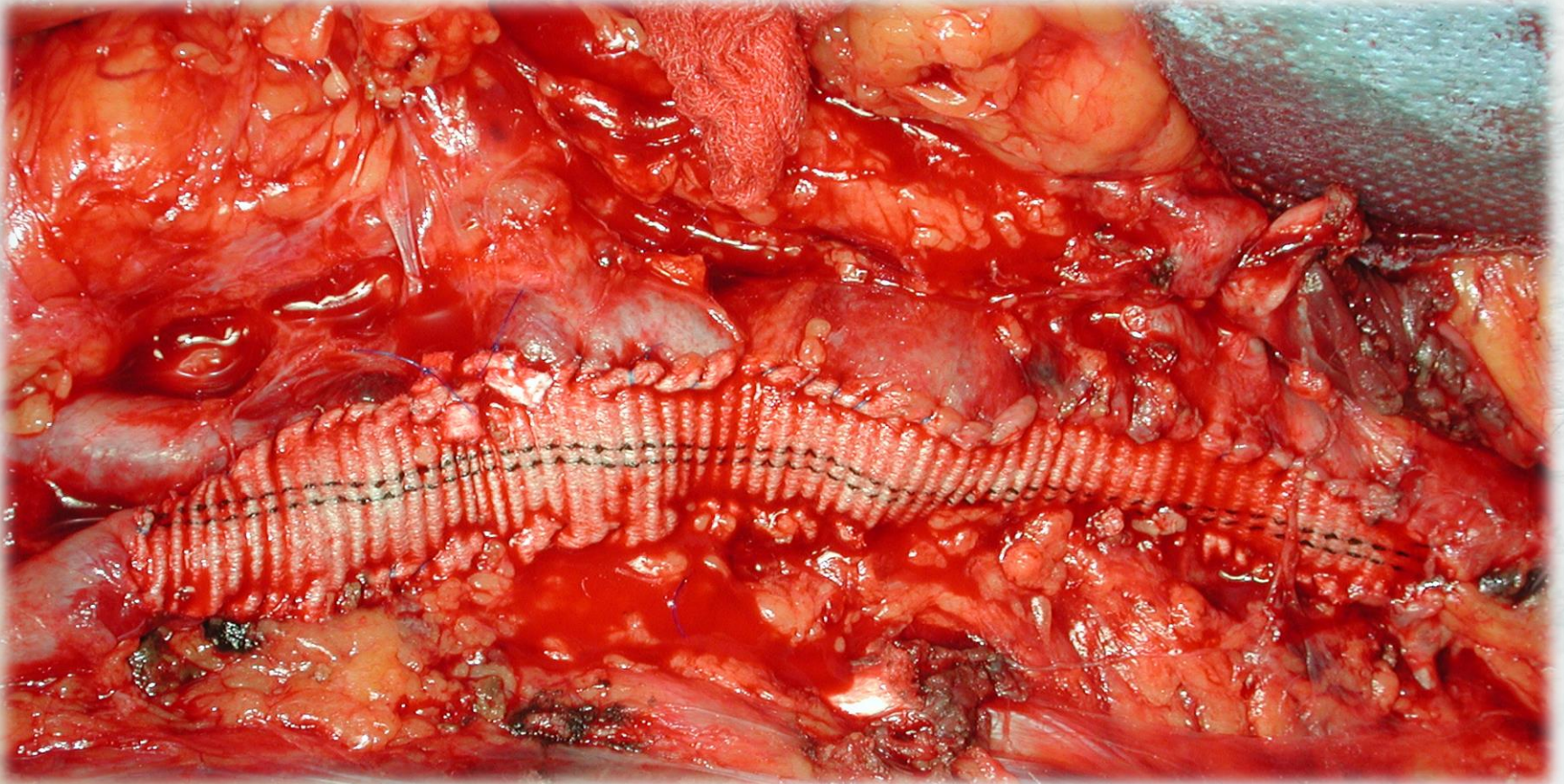
# Visceral Perfusion

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# Patch Aortoplasty

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# Patch Endarterectomy

**OSR Series '93 -'17: 31 cases**

**Primary Patency: 97.1%**

Mean FU  $114 \pm 13$  Months

| Distal Occlusion: 9      | N (%)    |
|--------------------------|----------|
| Mortality                | 0        |
| Cardiac Complications    | 0        |
| Renal Failure (ARD > 2)  | 0        |
| Juxtarenal Occlusion: 22 | N (%)    |
| Mortality                | 1 (4.5)  |
| Cardiac Complications    | 1 (4.5)  |
| Renal Failure (ARD > 2)  | 3 (13.6) |



# Conclusions

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## Aorto-Iliac Occlusive Disease

### **ENDOVASCULAR APPROACH**

- First choice in most cases (even TASC C & D)



# Conclusions

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## Aorto-Iliac Occlusive Disease

### OPEN APPROACH

- First choice in total occlusion  $> 4$  cm
- First choice when renal arteries plane & visceral arteries are involved



# Conclusions

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## Aorto-Iliac Occlusive Disease

### OPEN APPROACH

- Customized procedures
- Failed endovascular procedures
- Still unmatched long-term patency
- Continuous results improvements  
Dexmedetomidine, cPAP ...)

(Custodiol,



# Show Me Better Options!

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