



# Alma Mater Studiorum – Università di Bologna

S.Orsola-Malpighi, Bologna

Chirurgia Vascolare



il naturale e l'artificiale:  
tra bionica e futura robotica

# Chirurgia aortica nell' antichità

1550 a.C. Papiro Ebers

“... Only magic can cure tumors of the major arteries.”

Solo la magia  
può curare tumori e le arterie maggiori

... tumor, growing under thy  
finger . . . . . Treat it with the  
Knife and burn it with Fire so that  
it bleeds not too much. Heal it like  
the Cautery heals.”

Bryan CP. The Papyrus Ebers.  
London: The Garden City Press LTD. 1930.



# Chirurgia aortica contemporanea

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40 anni



## 1951 – Charles Dubost

Primo **innesto aorto-aortico**, utilizzando come “graft” un tratto di aorta prelevata da cadavere.

Dubost C, AMA Arch Surg 1952.

## 1990 – Juan Carlos Parodi

Primo trattamento di aneurisma dell'aorta addominale sottorenale per via **endovascolare**

Parodi JC, Ann Vasc Surg 1991



# Il Giorno Dopo l'intervento

Paziente di 100 anni  
AAA gigante (12 cm)  
Sintomatico





# Il Giorno Dopo l'intervento



AAA s  
Sintomatico

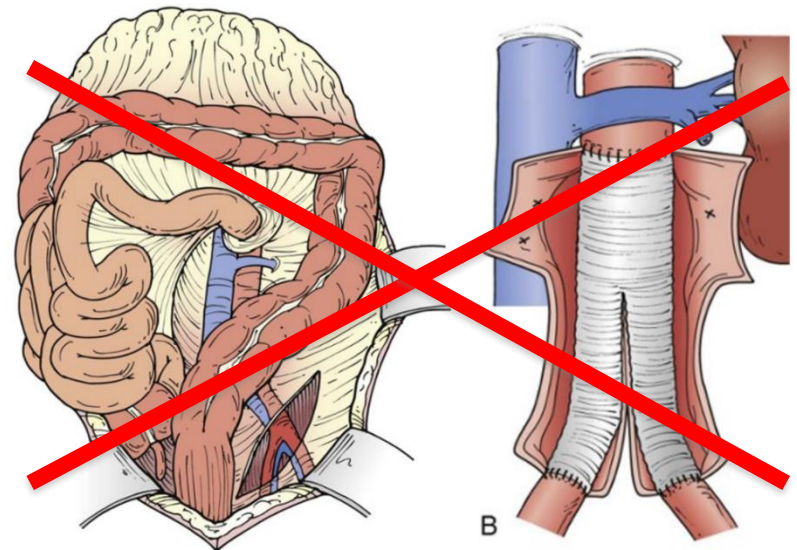


# Innesto aorto-aortico?



- Paziente molto anziano
- Numerose comorbidità
- Aneurisma in fase di rottura

 **NO SURGERY**



# EVAR?



2 Giorni Dopo



EVAR in  
anestesia  
locale





# EVAR?



2 Giorni Dopo



EVAR in  
anestesia  
locale



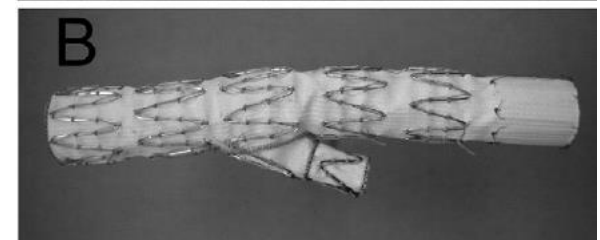
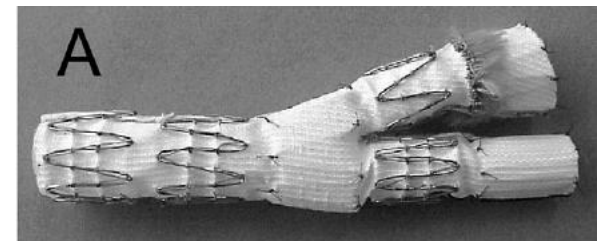


# Aorta addominale: ricostruzione endovascolare

**1994 – 2000**

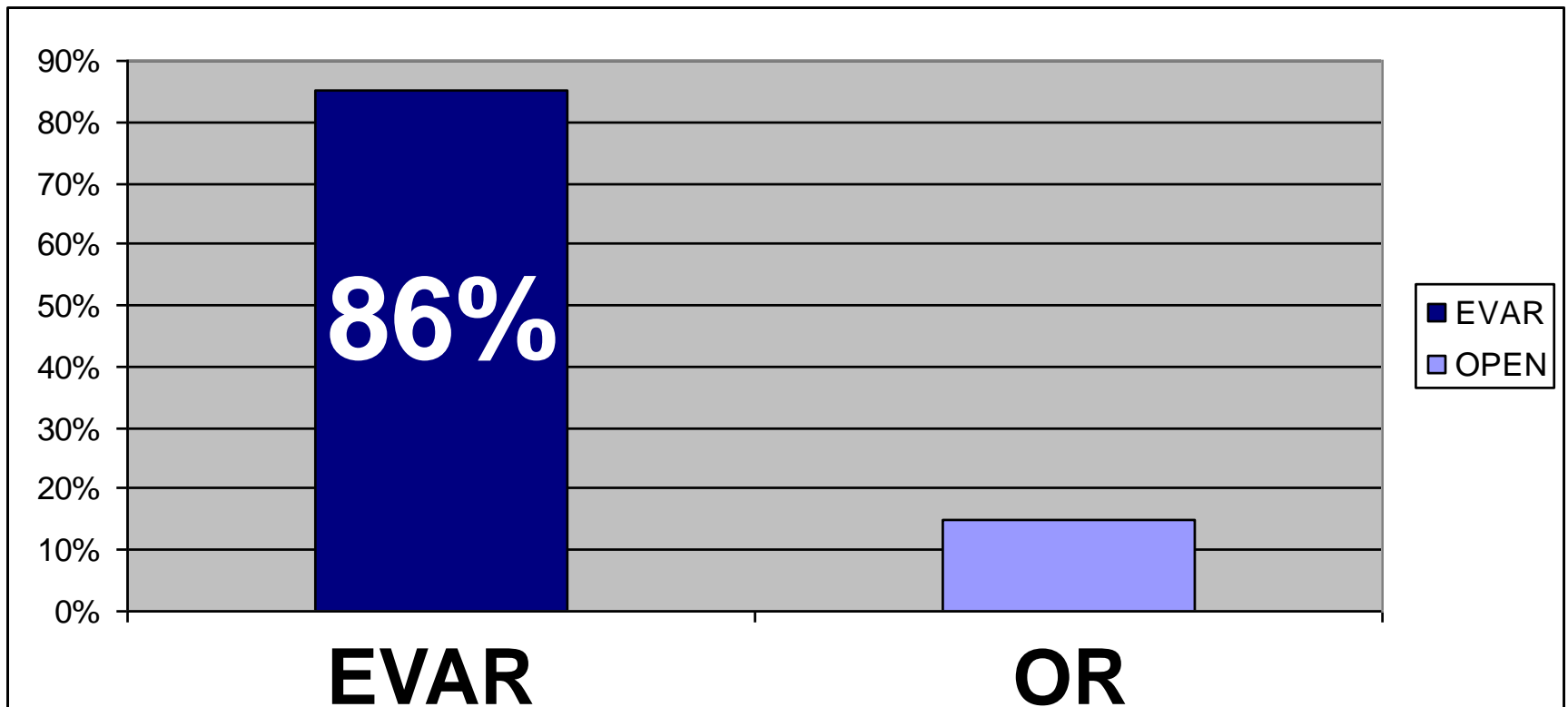


- Endoprotesi di 1° generazione
- EVAR team  
Scarsa esperienza dei chirurghi
- EVAR setting  
Sale operatorie non adeguate e con poco materiale dedicato



# Aorta addominale: Bologna 2016

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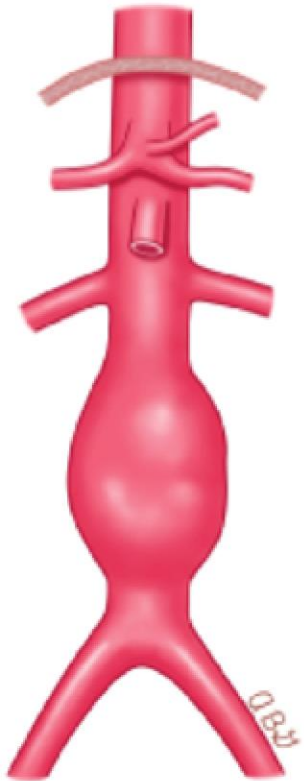
# Aorta addominale: ricostruzione endovascolare

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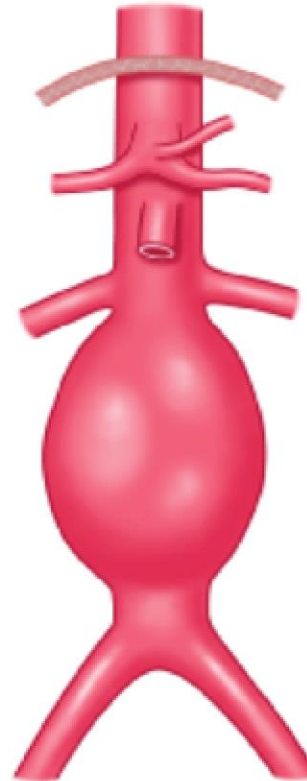


# EVAR per tutte le anatomie?

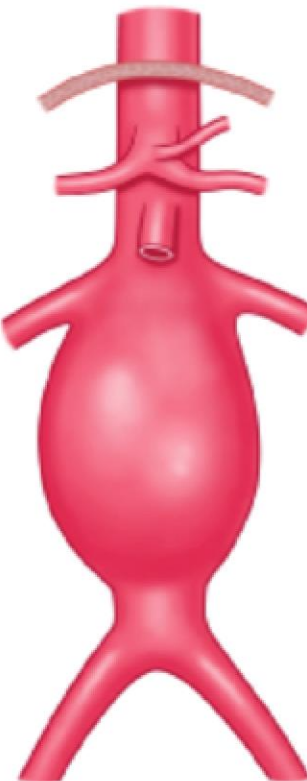
Sottorenale



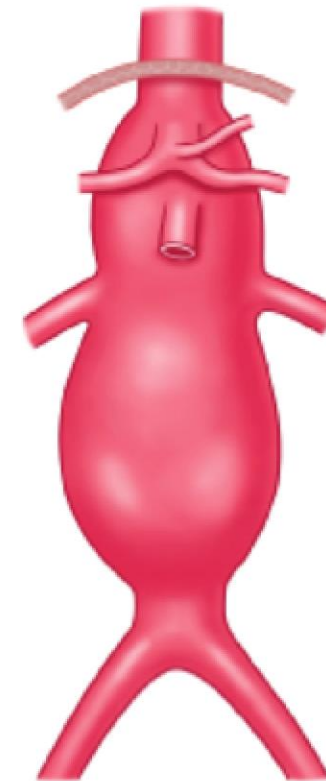
Juxtarenale



Pararenale



Sopraparenale



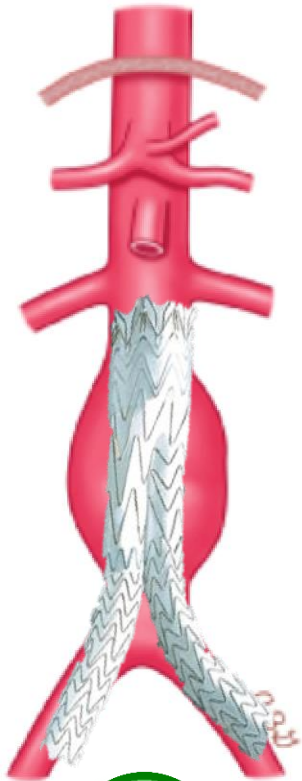
Toracoaddominale



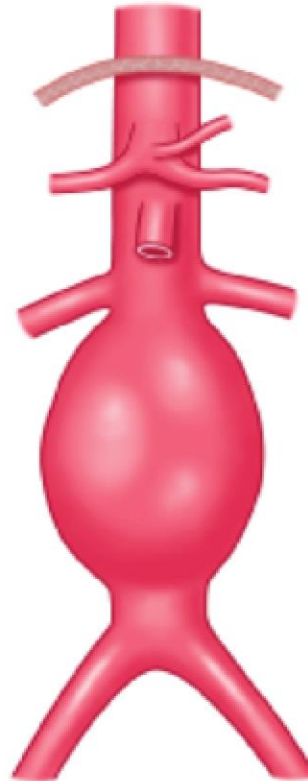


# EVAR per tutte le anatomie?

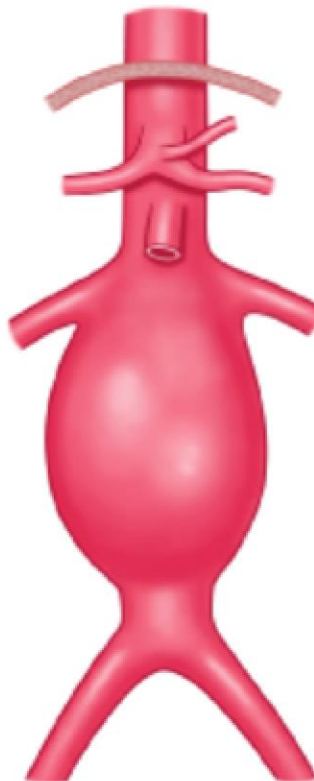
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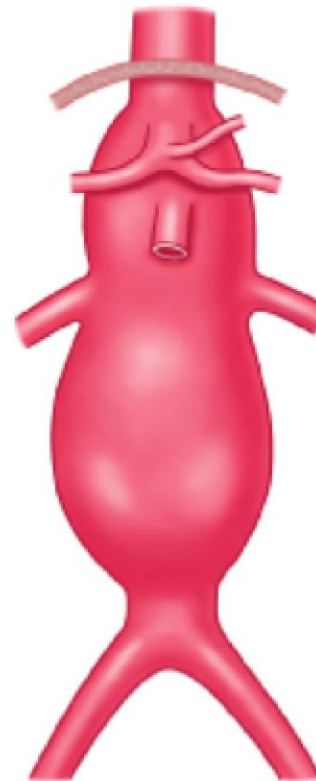
Juxtarenale



Pararenale



Sopraprenale

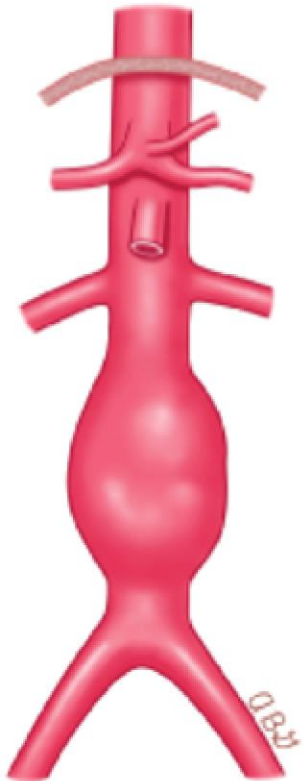


Toracoaddominale

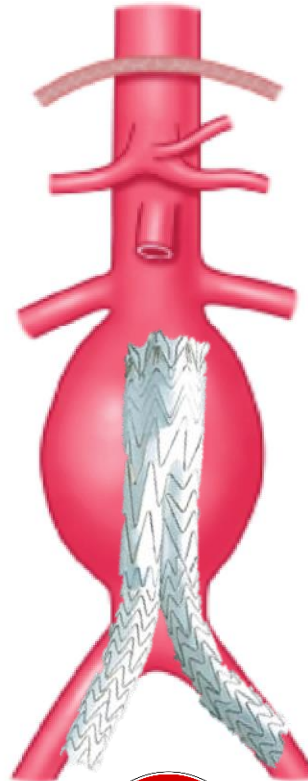


# EVAR per tutte le anatomie?

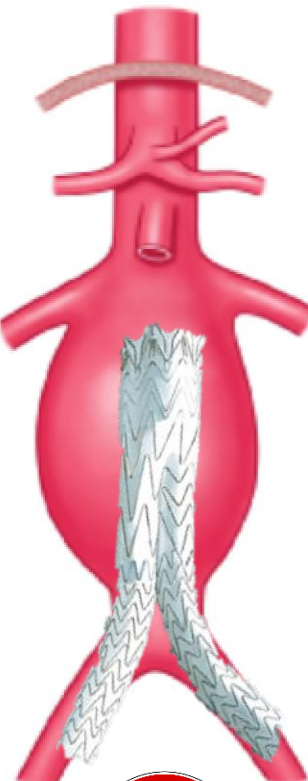
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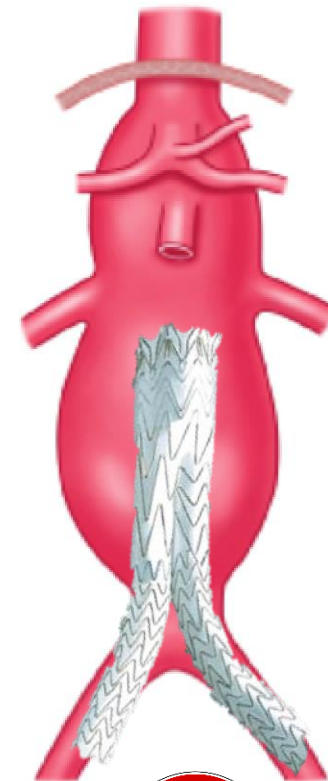
Juxtarenale



Pararenale



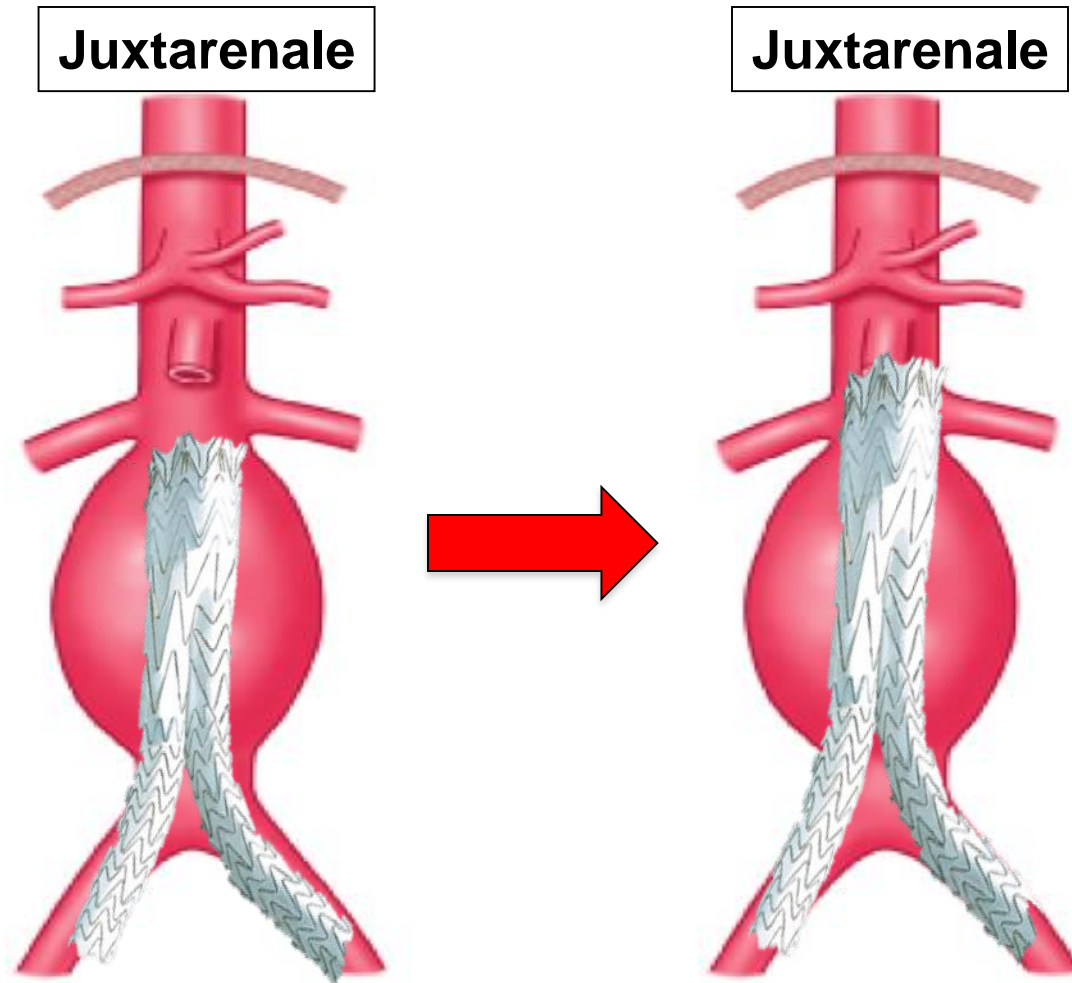
Sopraprenale



Toracoaddominale

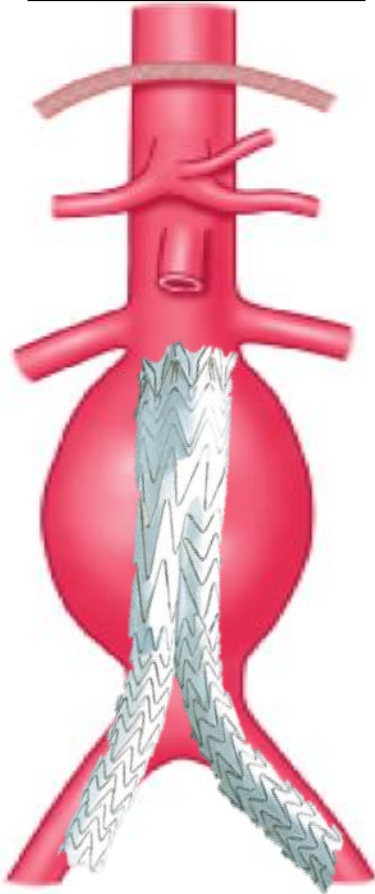


# EVAR per tutte le anatomie?



# EVAR per tutte le anatomie?

Juxtarenale



Juxtarenale



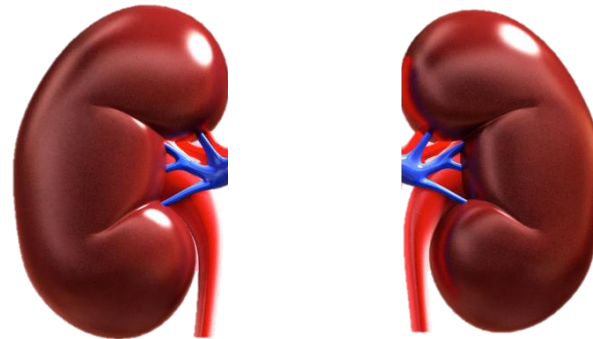
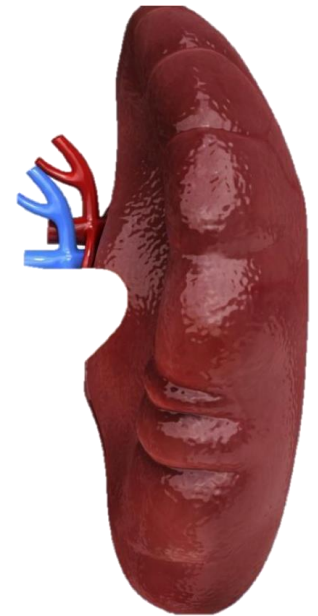
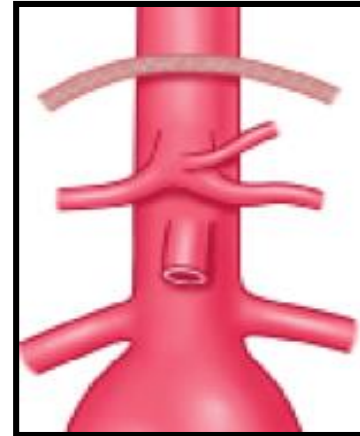
**Necessità di  
rivascolarizzare  
anche i vasi  
viscerali**





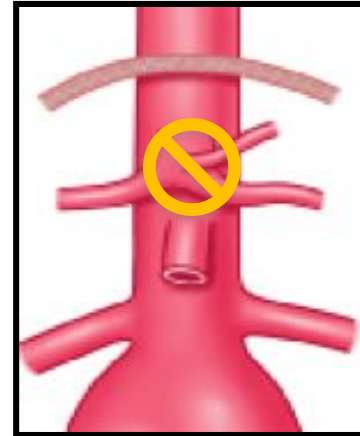
# EVAR per tutte le anatomie?

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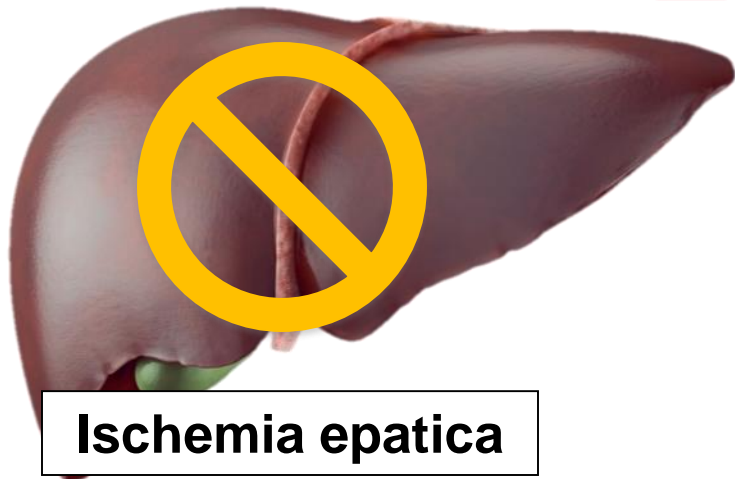


# EVAR per tutte le anatomie?

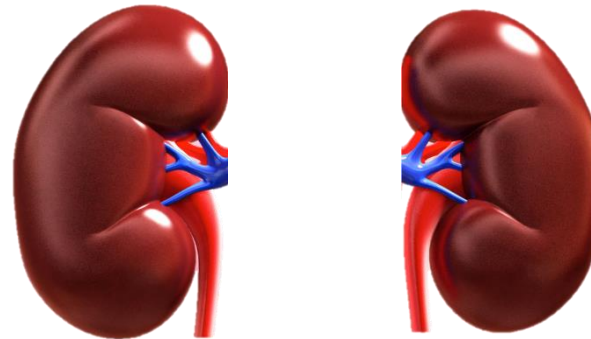
**Ischemia intestinale**



**Infarto splenico**

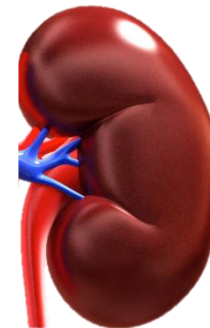
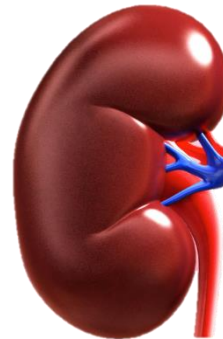
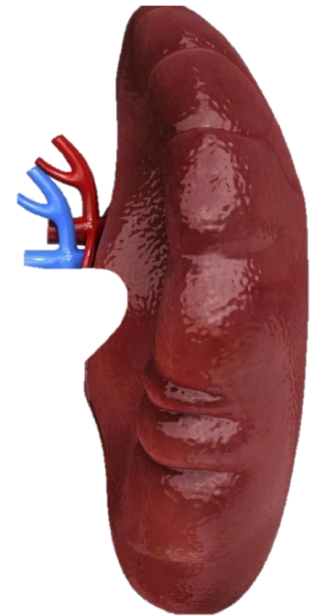
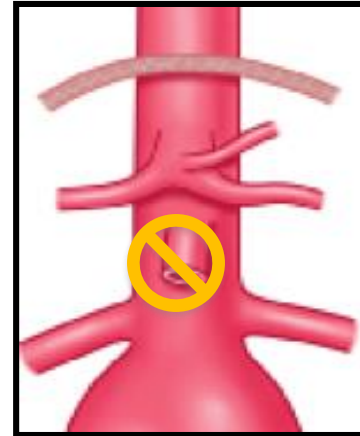


**Ischemia epatica**

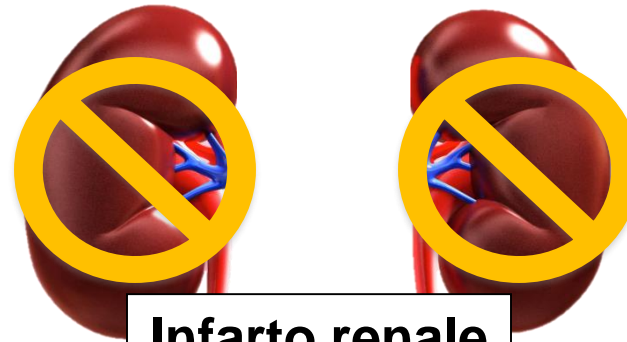
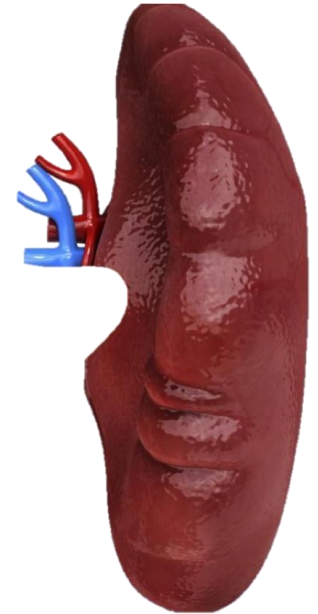
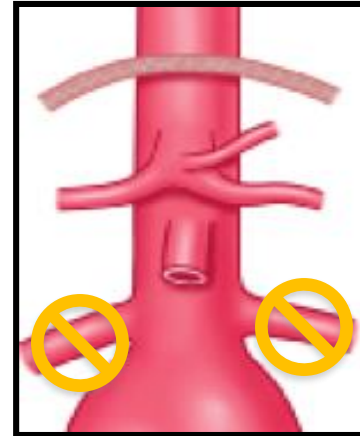


# EVAR per tutte le anatomie?

Ischemia intestinale



# EVAR per tutte le anatomie?



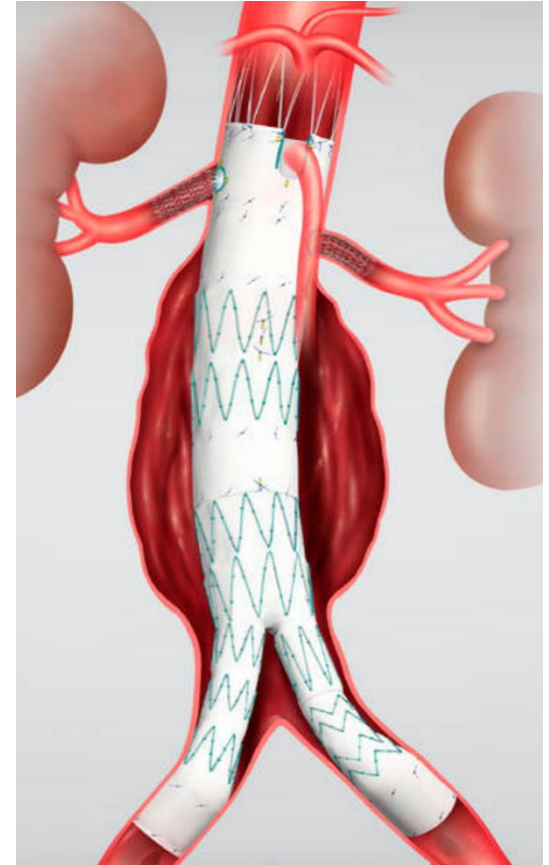
**Infarto renale**





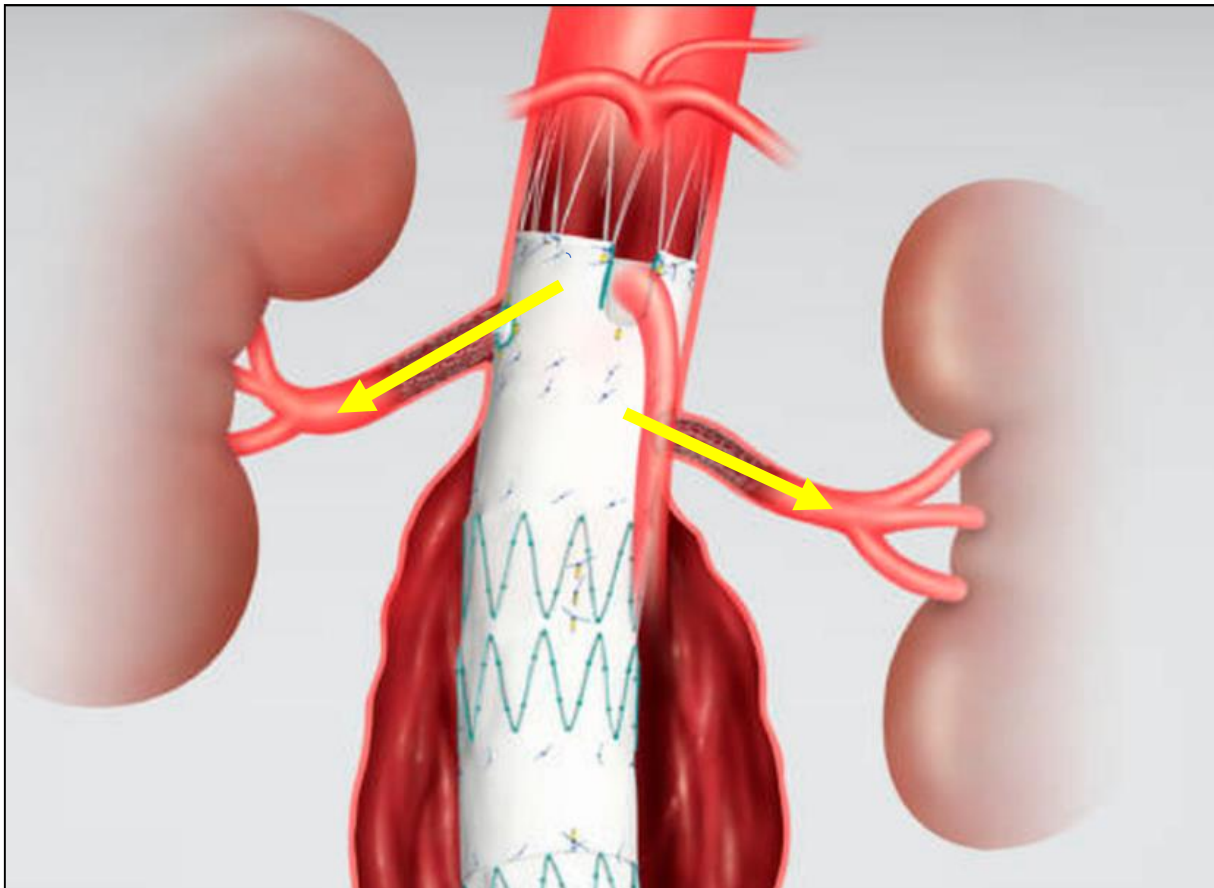
# FEVAR

## Fenestrated EndoVascular Aneurysm Repair



# FEVAR

## Fenestrated EndoVascular Aneurysm Repair



# FEVAR

## Fenestrated EndoVascular Aneurysm Repair



**1997 – Browne TF, Lawrence-Brown M, Hartley D**

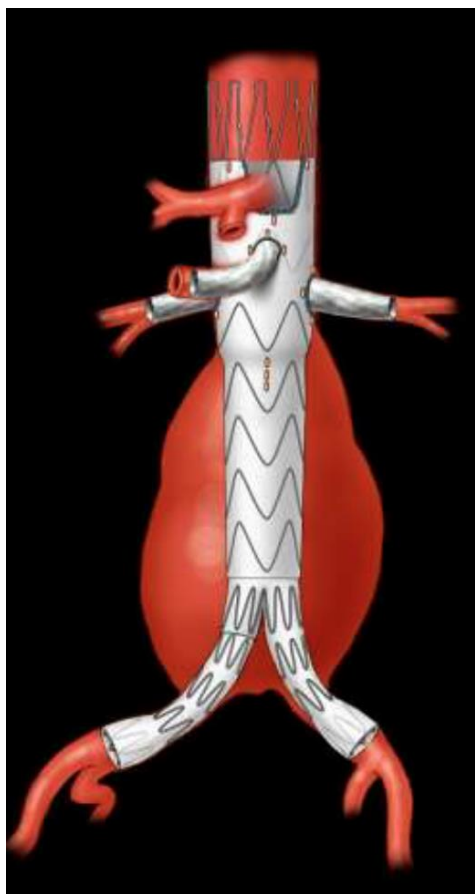
Primo utilizzo di endoprotesi fenestrata in modello canino

Browne TF, ESVS J 1999



# FEVAR

## Fenestrated EndoVascular Aneurysm Repair



**1998 – John Anderson**

Primo impianto di endoprotesi fenestrata  
nell'uomo

Anderson JL, J Endovasc Ther 2001

