Resultats inicials del tractament d'aneurismes d'aorta abdominal complexos (juxtarrenals/Pararrenals) mitjançant reparació Endovascular amb pròtesis fenestrades

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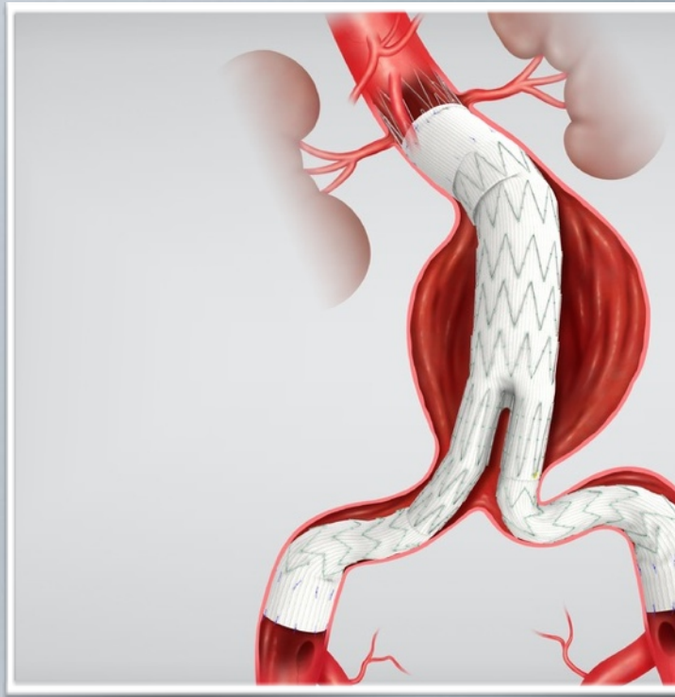


PARODI (1991)
DESENVOLUPA REPARACIÓ ENDOVASCULAR

Endoleaks

Ruptura del AAA

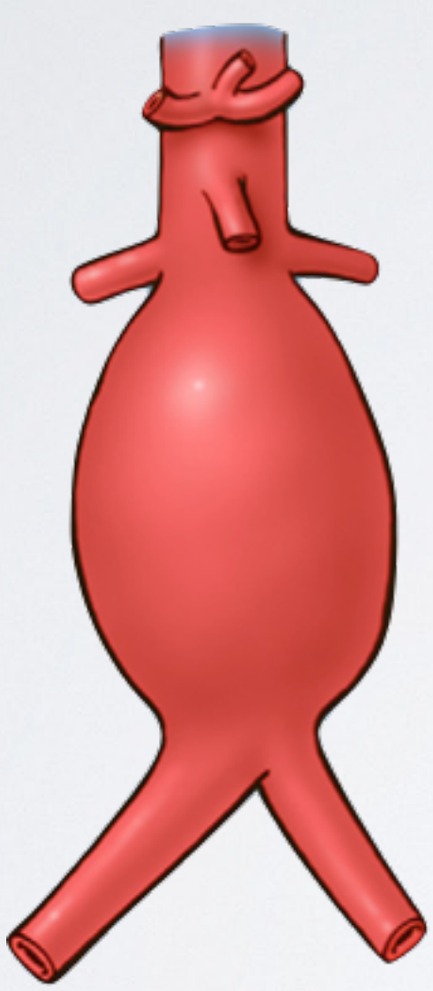
Menor Morbi-mortalitat

Menor pèrdua sanguínia

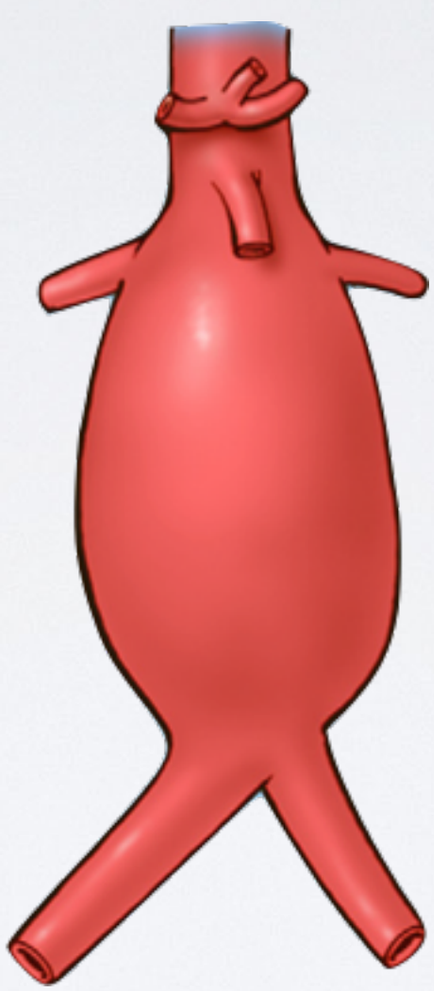
Menor estància UCI i hospitalització

Recuperació més ràpida

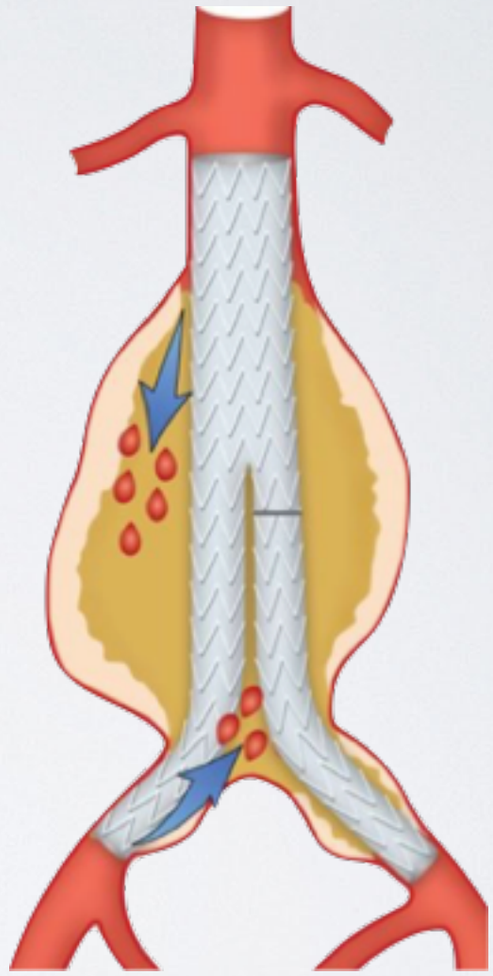
INDICACIONS DE FEVAR



Juxtarrenal



Pararrenal



Endoleak 1a

Results of Open Pararenal Abdominal Aortic Aneurysm Repair: Tabular Review of the Literature Tiziano Tallarita. Ann Vasc. Surg, 2011

Table IV. Early morbidity after open elective repair of pararenal aortic aneurysm

	1986-1999			2000-2009		
Variables	*n*	% (range)	References	*n*	% (range)	References
Renal						
Renal insufficiency (RI)	117/360	32.5 (2-40.5)	3, 8, 15	166/1,099	15 (2-40)	1, 4, 6, 7, 9, 1 12, 13, 17, 2
Temporary RI	1/50	2 (2)	15	20/99	20 (13-25)	9, 28, 30
Dialysis (D)	33/427	8 (6-11.5)	3, 8, 20, 21	23/664	3.5 (0-7)	4-7, 9, 11, 12,
Temporary D	9/322	3 (2.7-3.1)	3, 21	20/625	3 (2-4)	1, 6, 11, 17
Permanent D	11/257	4 (4)	3	12/544	2 (0-5)	1, 4, 6, 9, 11
Gastro-intestinal						
Visceral ischemia	8/310	2.5 (2-3)	3, 8	28/964	3 (0-7)	1, 6, 7, 9, 11,
Pancreatitis	2/53	4 (4)	8	5/371	1.5 (0-4)	13, 17
Intestinal occlusion	5/118	4 (3.5-6)	8, 21	6/203	3 (3)	12, 13
Cardiac						
Overall cardiac events	41/417	10 (1.5-23)	3, 8, 15, 21	119/703	17 (14-23)	1, 6, 7, 13, 30
Myocardial infarction	21/417	5 (1.5-6)	3, 8, 15, 21	46/649	7 (0-13)	1, 4, 5, 11, 12
Arrhythmia	19/310	6 (5.7-6.5)	3, 8	14/171	13(13)	13
Congestive heart failure	1/310	0.5 (0-2)	3, 8	5/223	2 (0.5-8)	5, 13
Pulmonary						
Pulmonary complications	42/375	11 (7-22)	3, 8, 21	129/899	14 (3-30)	1, 4-7, 11, 12, 13, 28, 30
Pulmonary embolism	1/53	2 (2)	8	/	/	/
Pneumonia	22/310	7 (6-13)	3, 8	8/105	8 (4-11)	5, 11
Tracheostomy	7/118	6 (3-10)	8, 21	1/52	2 (2)	5
Nervous						
Cerebrovascular disease	16/257	6 (6)	3	9/496	2 (1-3)	6, 13, 17
Spinal cord ischemia	2/372	0.5 (0-1.5)	3, 15, 21	2/153	1 (0-4)	9, 11, 24
Incision-related						
Wound infection/ dehiscence	14/375	4 (3-6)	3, 8, 21	/	/	/
Incisional hernia	/	/	/	1/38	2.5 (2.5)	4
Graft-related						
Bleeding	4/118	3 (3-4)	8, 21	20/598	3.5 (2-13)	2, 4, 12, 13, 1
Graft/limb thrombosis	1/53	2 (2)	8	15/604	2.5 (2-4)	2, 4, 6, 11, 15
Lower limb embolization	12/360	3 (2-3.5)	3, 8, 15	/	/	/
Length of stay						
Mean length of in-hospital stay	14 (10-17.5)		8, 21	10 (2-372)		1, 2, 4-7, 12, 1 28, 30
Mean intensive care unit stay		/	/	3.5 (1-72)		1, 2, 5, 6

Table V. Early and late mortality after elective repair of pararenal aortic aneurysm

	1986-1999			2000-2009		
Variables	*n*	% (range)	References	*n*	% (range)	References
Mortality						
In hospital	20/352	6 (4-7)	3, 8, 15	29/831	3.5 (0-6)	1, 2, 5-7,
30-day	9/117	8 (1.5-15)	20, 21	40/1,090	4 (0-11)	1, 4, 6, 7, 17, 24,
Causes						
Renal						
Renal failure	2/52	4 (4)	20	2/44	4.5(4.5)	24
Gastro-intestinal						
Visceral ischemia	9/362	2.5 (2-4)	3, 8, 20	10/669	1.5 (1-2)	1, 2, 9, 11
Pancreatitis	1/105	1 (0-2)	8, 20	/	/	/
Cardiac						
Overall cardiac events	5/351	1.5 (0.5-5)	3, 15, 20	9/819	1.1 (0.7-2)	1, 2, 6, 9,
Myocardial infarction	5/351	1.5 (0.5-5)	3, 15, 20	5/434	1.1 (0.5-2)	6, 9, 11, 1
Arrhythmia	0/351	0 (0)	3, 15, 20	4/560	0.7 (0.6-1)	1, 2, 17
Congestive heart failure	0/351	0 (0)	3, 15, 20	/	/	/
Pulmonary						
Pulmonary complications	4/404	1 (0-6)	3, 8, 15, 20	2/228	1 (0.5-2)	11, 17
Pulmonary embolism	2/404	0.5 (0-2)	3, 8, 15, 20	1/53	1.8 (1.8)	11
Pneumonia	2/404	0.5 (0-4)	3, 8, 15, 20	1/175	0.6 (0.6)	17
Nervous						
Cerebrovascular disease	0/147	0 (0)	8, 15, 20	2/175	1.1 (1.1)	17
Graft-related						
Graft occlusion	0/404	0 (0)	3, 8, 15, 20	0/710	0 (0)	1, 2, 8, 11
Bleeding	4/404	1 (0-1.5)	3, 8, 15, 20	0/710	0 (0)	1, 2, 8, 11
Late mortality[a]						
Mean follow-up (months)	30.5 (3-120)					4, 6, 11, 1
Mortality	147/519		28 (0-81)			4, 6, 11, 1

Modern Treatment of Juxtarenal Abdominal Aortic Aneurysms with Fenestrated Endografting and Open Repair A Systematic Review.

I.M. Nordon. Eur. Vasc. Endov. Surg, 2009

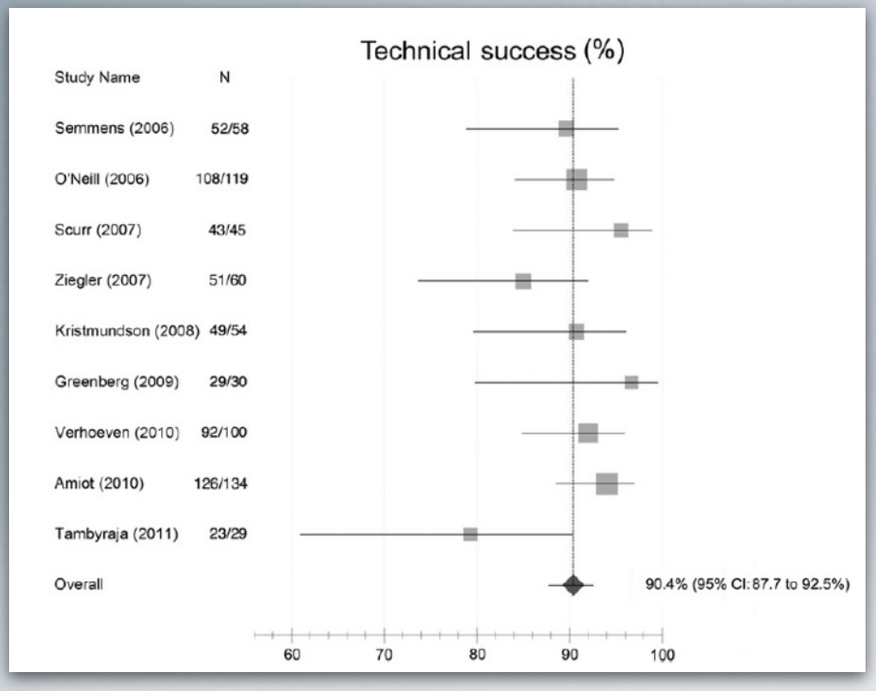
Table 2 Cohort studies included in analysis with associated mortality.

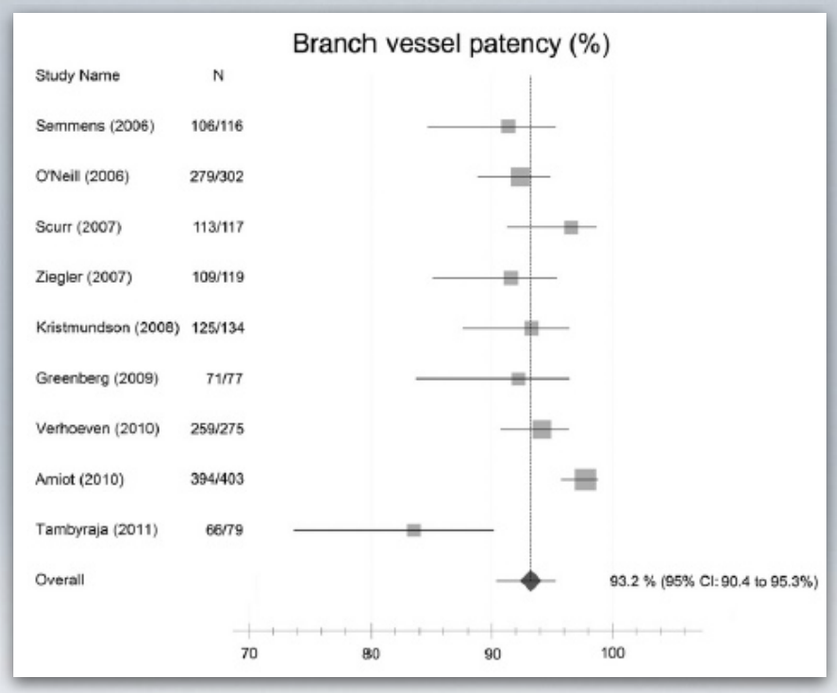
First author	Country	Year	Type of study	*n*=	30-day mortali
Fenestrated					
Anderson[6]	Australia	2001	Prospective, Single centre	13	0
Halak[7]	Australia	2006	Single centre	17	0
Muhs[8]	Netherlands	2006	Prospective, Single centre	38	2.6
O'neill[9]	USA	2006	Prospective, Single centre	119	1
Semmens[10]	Australia	2006	Retrospective, Multicentre	58	3.4
Ziegler[11]	Germany	2007	Retrospective, Single centre	63	0
Scurr[12]	UK	2008	Retrospective, Single centre	45	2.2
Bicknell[13]	UK	2008	Prospective, Single centre	15	0
Open					
Ayari[14]	France	2001	Retrospective, Single centre	53	11
Sarac[15]	USA	2002	Prospective, Single centre	138	5.1
Bicknell[16]	UK	2003	Prospective, Single centre	44	4.5
Shortell[17]	USA	2003	Retrospective, Single centre	112	6
Kudo[18]	Japan	2004	Retrospective, Single centre	18	0
Ryan[19]	USA	2004	Retrospective, Single centre	44	0
Back[20]	USA	2005	Retrospective, Single centre	78	2.6
Chiesa[21]	Italy	2006	Retrospective, Single centre	119	4.2
West[22]	USA	2006	Retrospective, Single centre	247	2.5
Ockert[23]	Germany	2007	Case-Control	35	5.7
Pearce[24]	USA	2007	Retrospective, Single centre	150	2.7
Knott[25]	USA	2008	Retrospective, Single centre	126	0.8

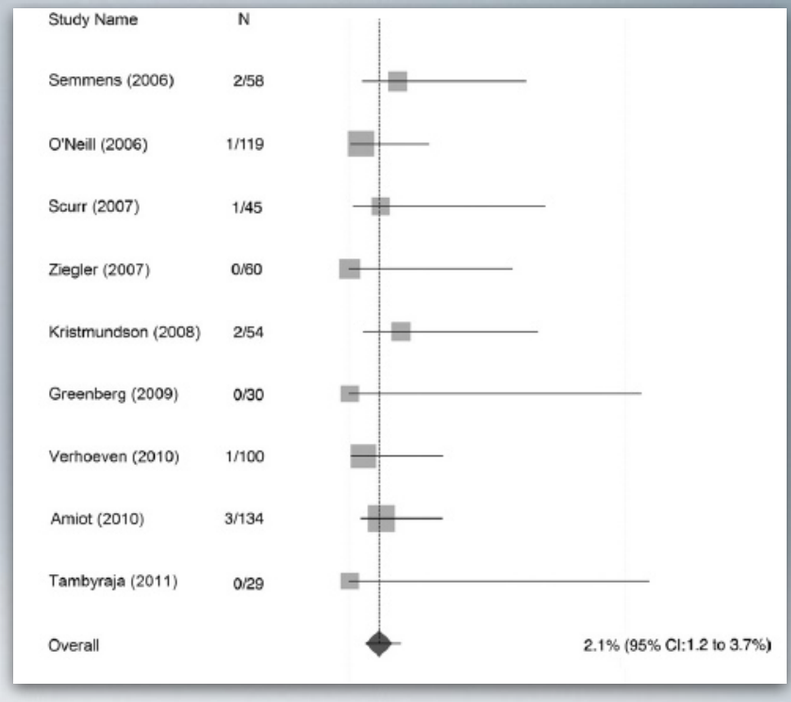
Table 5 Aneurysm morphology, primary and follow-up target vessel patency and secondary re-interventions in the f-EVR group (* median (range) ** median (IQR)).

First author	*n*=	Target vessels (*n*=)	Fenestrations/ patient	Aneurysm neck length (mean ± SD (range))	Technical success branch (%)	Target vessel patency 1 y (%)	Early re-interventions *n* (%)
Anderson[6]	13	33	2.5	5 ± 6.5(0–20)	100	97	0
Halak[7]	17	35	2.05	–	91	89	–
Muhs[8]	38	87	2.3	–	94	92	3(8)
O'neill[9]	119	302	2.5	8 ± 4(3–18)	99.7	–	14(12)
Semmens[10]	58	116	2	–	90.5	90.5	14(24)
Ziegler[11]	63	122	1.94	–	96.7	92.6	13(21)
Scurr[12]	45	117	2.6	6(0–13)*	96.6	96.6	6(13)
Bicknell[13]	15	40	2.6	0(0–3.8)**	98	97	0

Pararenal aortic aneurysm repair using fenestrated endografts Matteus A. M. Linsen,. J. Vasc. Surg, 2012







Comparison of fenestrated endovascular and open repair of abdominal aortic aneurysms not suitable for standard endovascular repair.

Canavati. J.Vasc. Surg. 2013.

Table I. Preoperative comorbidity and American Society of Anesthesiology (*ASA*) grading of both groups

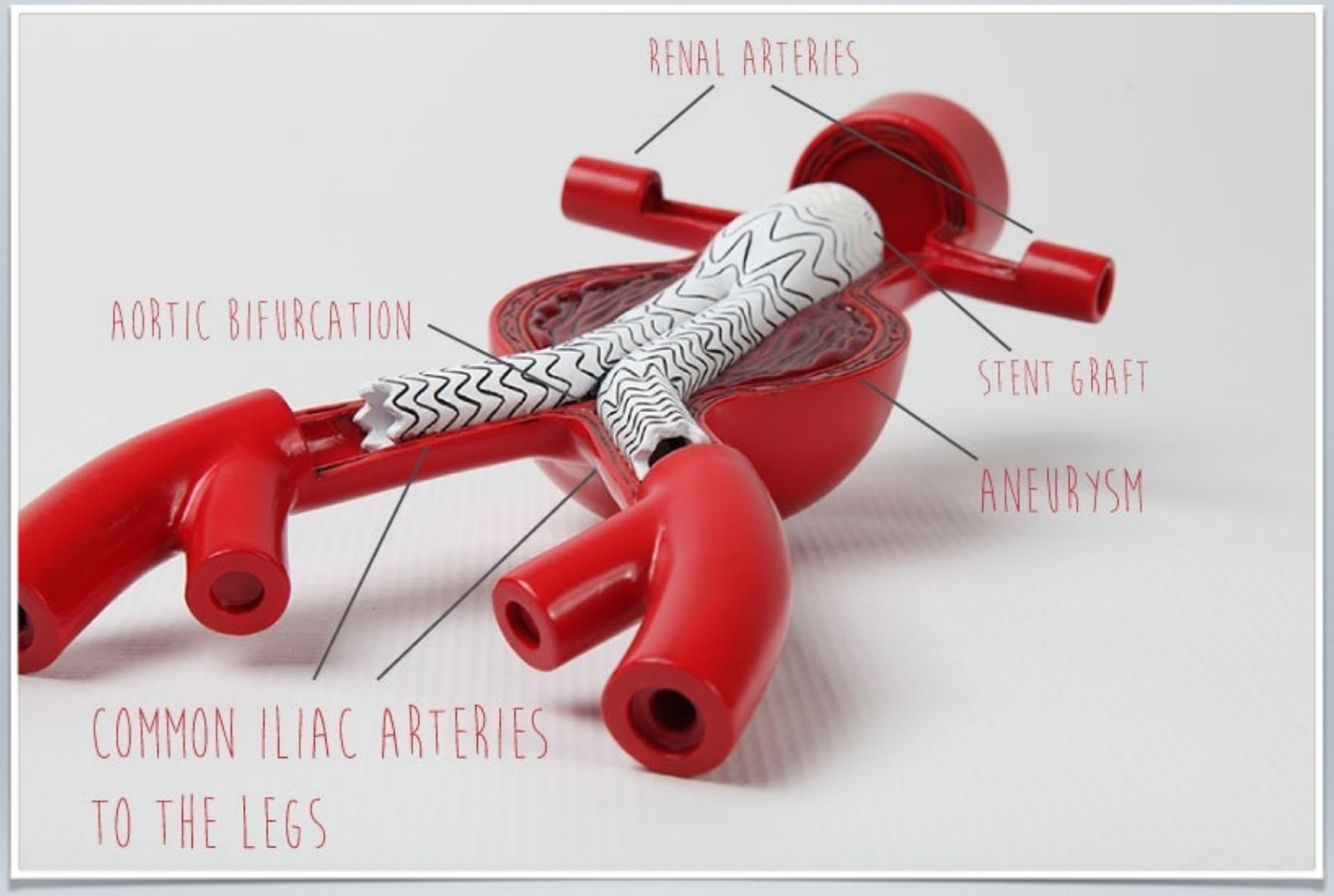
Comorbidity	*Open repair (n = 54) No. (%)*	*f-EVAR (n = 53) No (%)*	P
Ischemic heart disease	21 (39)	31 (58)	.0538
Hypertension	31 (57)	26 (49)	.4409
COPD	23 (43)	31 (58)	.1232
Congestive heart failure	2 (4)	3 (6)	.6785
Chronic renal failure	7 (13)	9 (17)	.5983
Cerebrovascular disease	5 (9)	7 (13)	.5558
Diabetes mellitus	7 (13)	7 (13)	>.99
ASA grade			
1	–	2 (3.8)	
2	16 (29.6)	12 (22.6)	
3	36 (66.6)	38 (71.7)	
4	2 (3.8)	1 (1.9)	

Table III. Postoperative complications

Complication	*Open repair*		*f-EVAR*	
	Events, No.	*Pts, No. (%)*	*Events, No.*	*Pts, No. (%)*
Cardiovascular	17	13 (24)	10	7 (13)
Myocardial infarction	6		3	
Dysrhythmia	7		4	
Cardiac failure	4		3	
Respiratory	17	15 (27)	8	7 (13.2)
Pleural effusion	2		0	
Chest infection	9		8	
Respiratory failure	2		0	
ARDS	1		0	
Tracheostomy	3		0	
Gastrointestinal	10	9 (17)	3	3 (5.6)
Mesenteric ischemia/bleeding	4		1	
Pancreatitis	1		0	
Diarrhea	1		1	
Upper gastrointestinal bleeding	1		0	
Bowel fistula	2		0	
Compartment syndrome	1		0	
Peritonitis	0		1	
Renal	9	9 (17)	8	8 (15)
AKI (>50% basal creatinine)	9		8	
Temporary dialysis		3 (5.5)		1 (1.8)
Neurologic				
Transient ischemic attack	0		1	
Other				
Acute limb ischemia	1		1	
Wound problems	4		2	
Retroperitoneal bleed	1		0	
Graft infection	1		1	
Heparin-induced thrombocytopenia	0		2	

- 107 pacients (54 cirugía abierta, 53 REVA-F)

- Conclusions: REVA-F redueix morbi-mortalitat (RRA 9,5%) i l'estada hospitalària

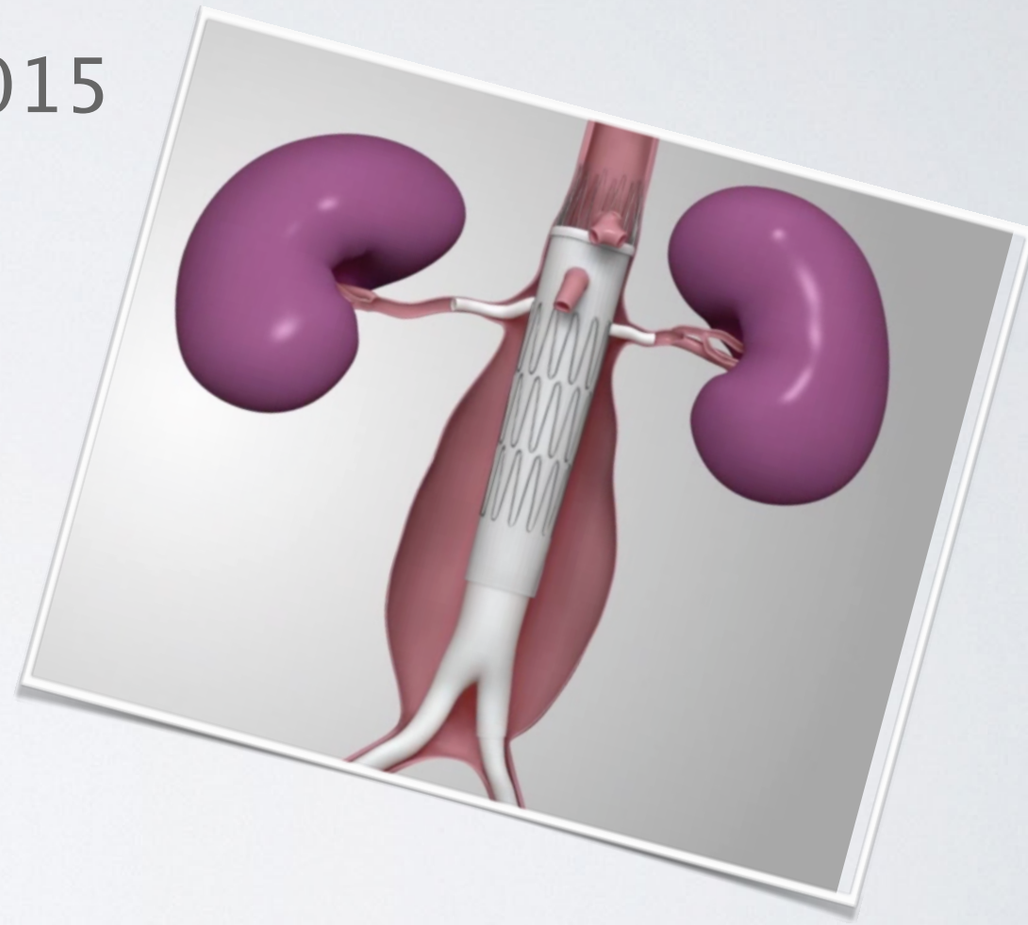


FEVAR

Redueix la mortalitat perioperatòria

MATERIAL I MÉTODE

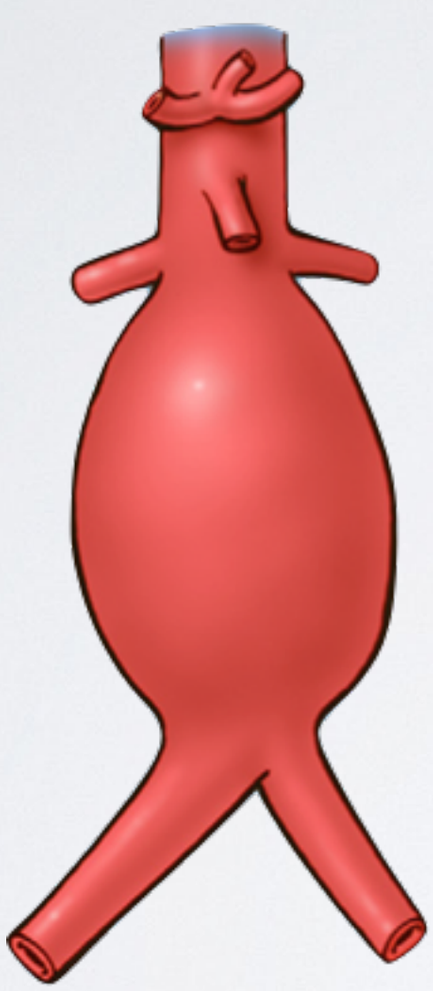
Servei Angiologia i cirurgia vascular
Hospital Universitari Parc Taulí 2013-12015



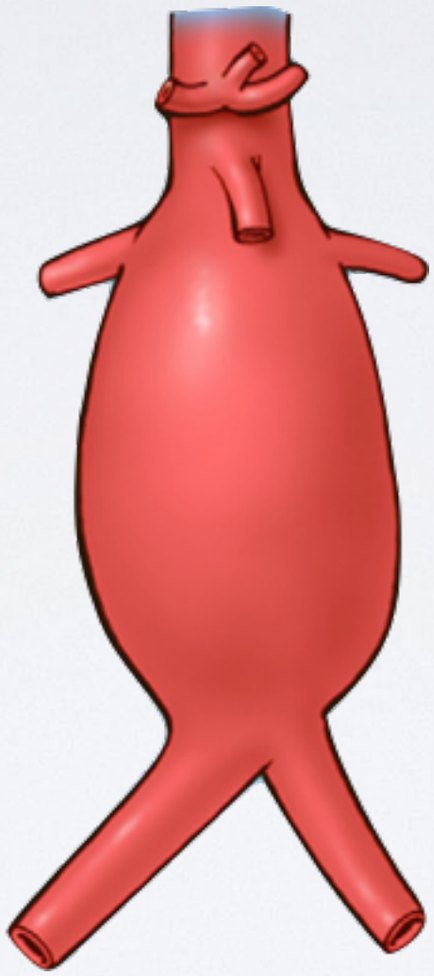
- **Període de reclutament:** 2013-2015

- **8 pacientes** amb AAA tractats amb REVA-F
  - 7: Anaconda fenestrada (Vascutek)
  - 1: e-Vita (Jotec)

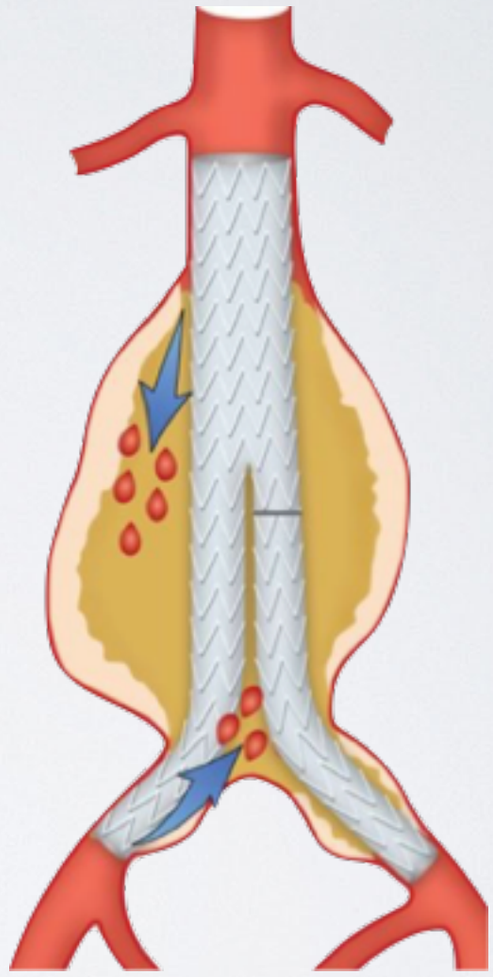
CLASSIFICACIÓ DELS AAA



4: Juxtarrenal



3: Pararrenal

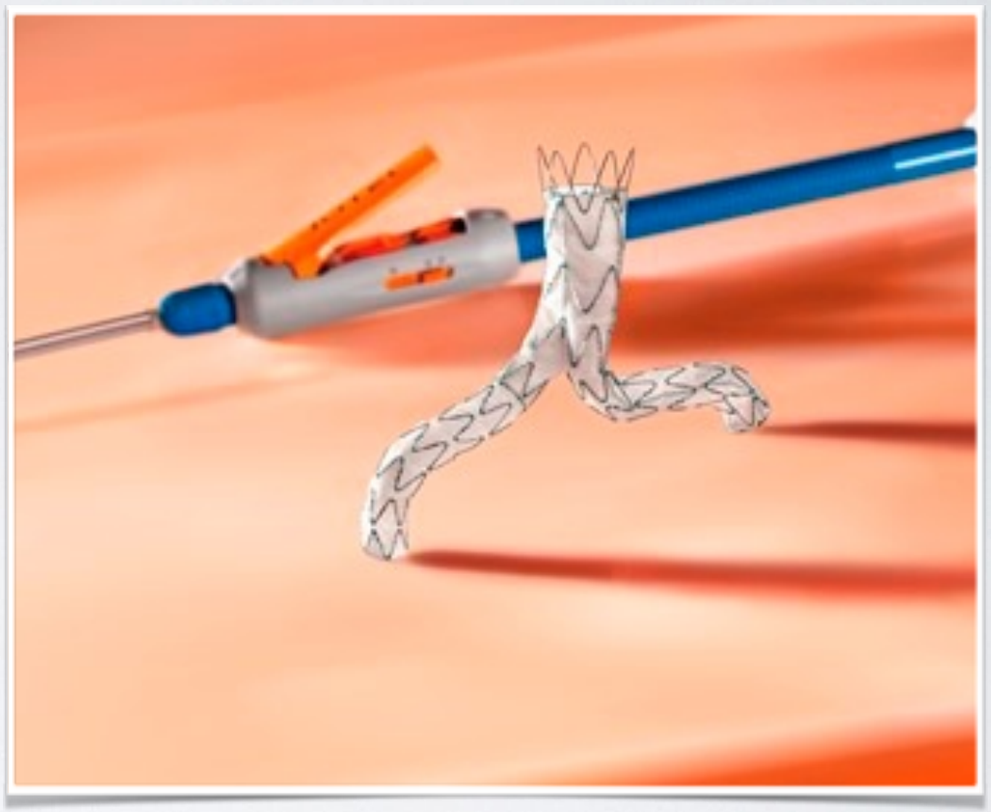


1: Endoleak 1a

Diàmetre mitjà: 64,6mm

DISPOSITIUS UTILITZATS

Anaconda - Vascutek



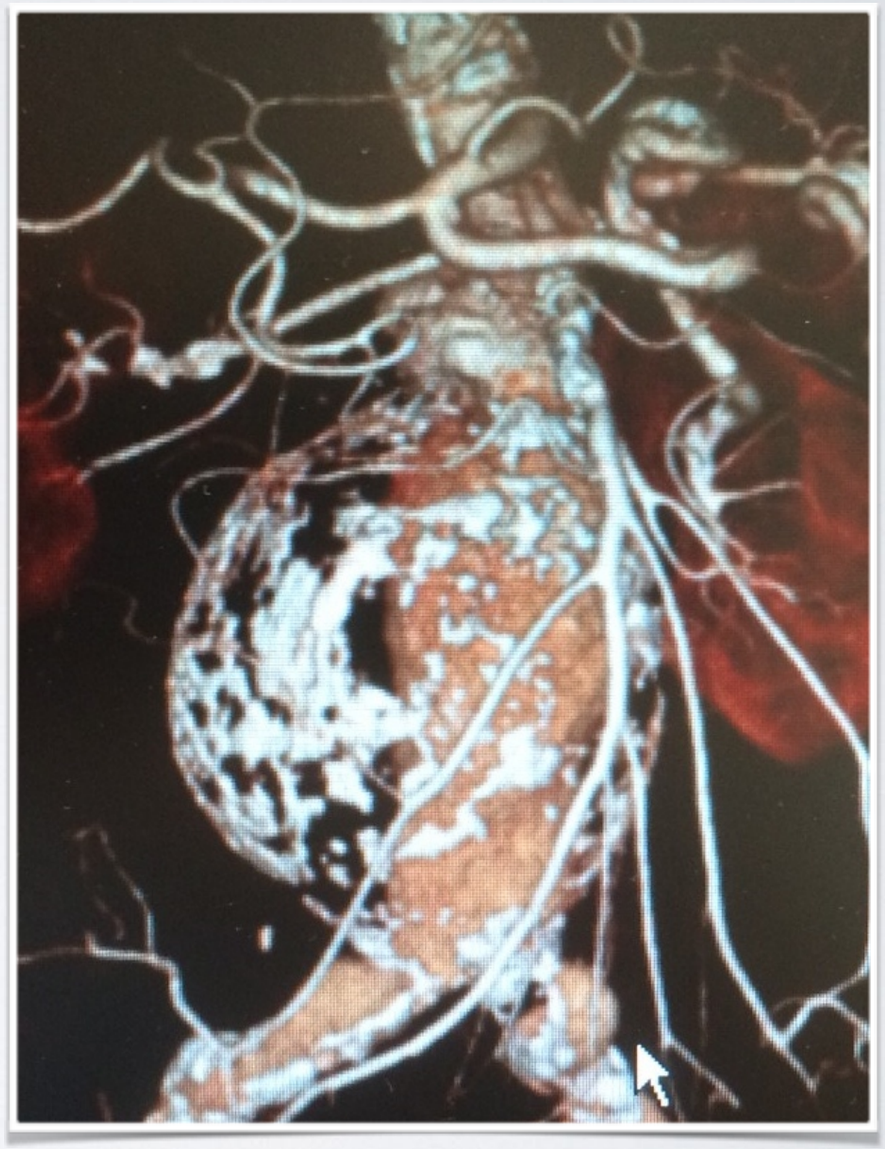
E-vita - Jotec

MATERIAL I MÉTODE

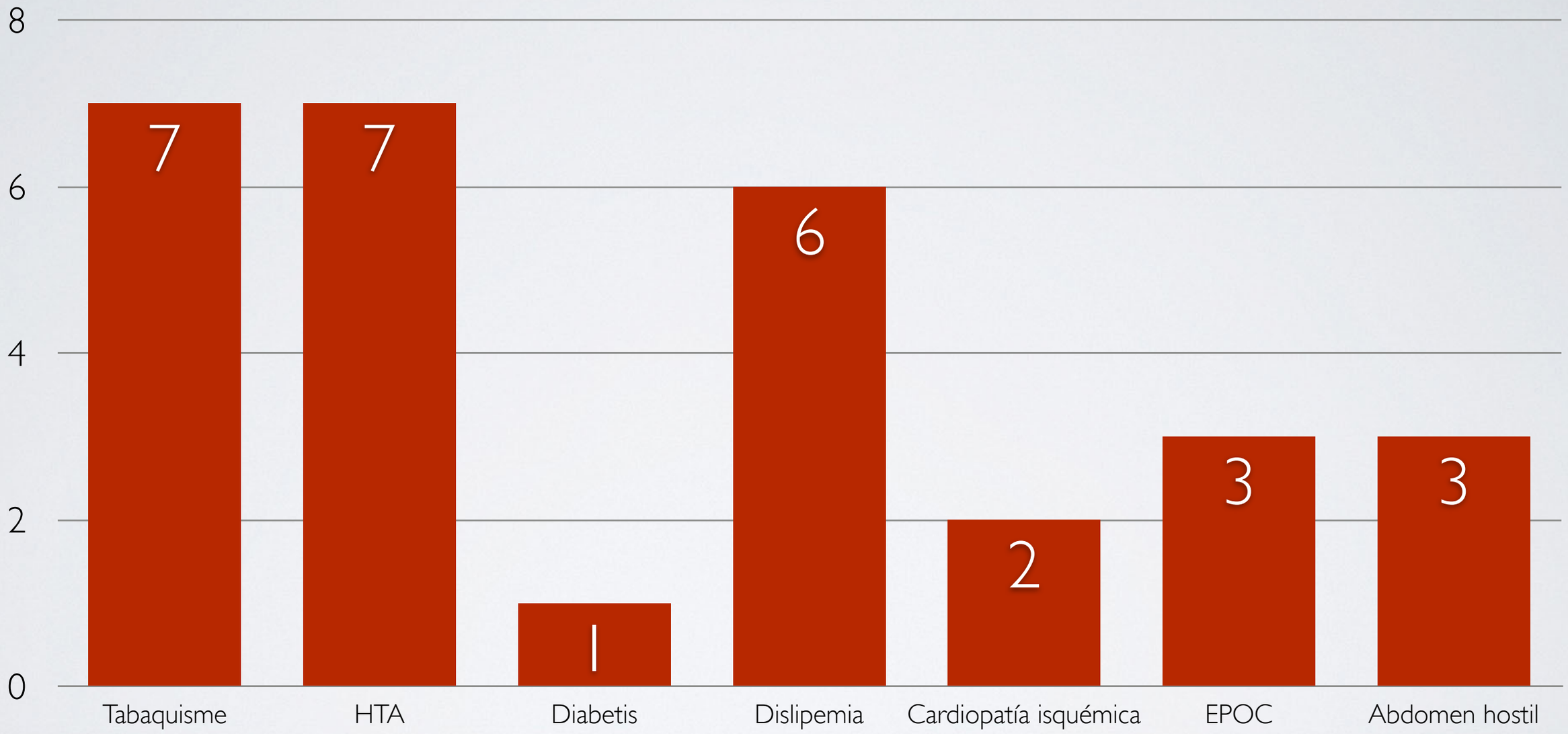
- **Criteris d'inclusió**: AAA pararrenal/ juxtarrenal i endofugues proximals de dispositius infrarrenals

- **Edad mitjana**: 75 anys (68- 82 anys) (8♂)

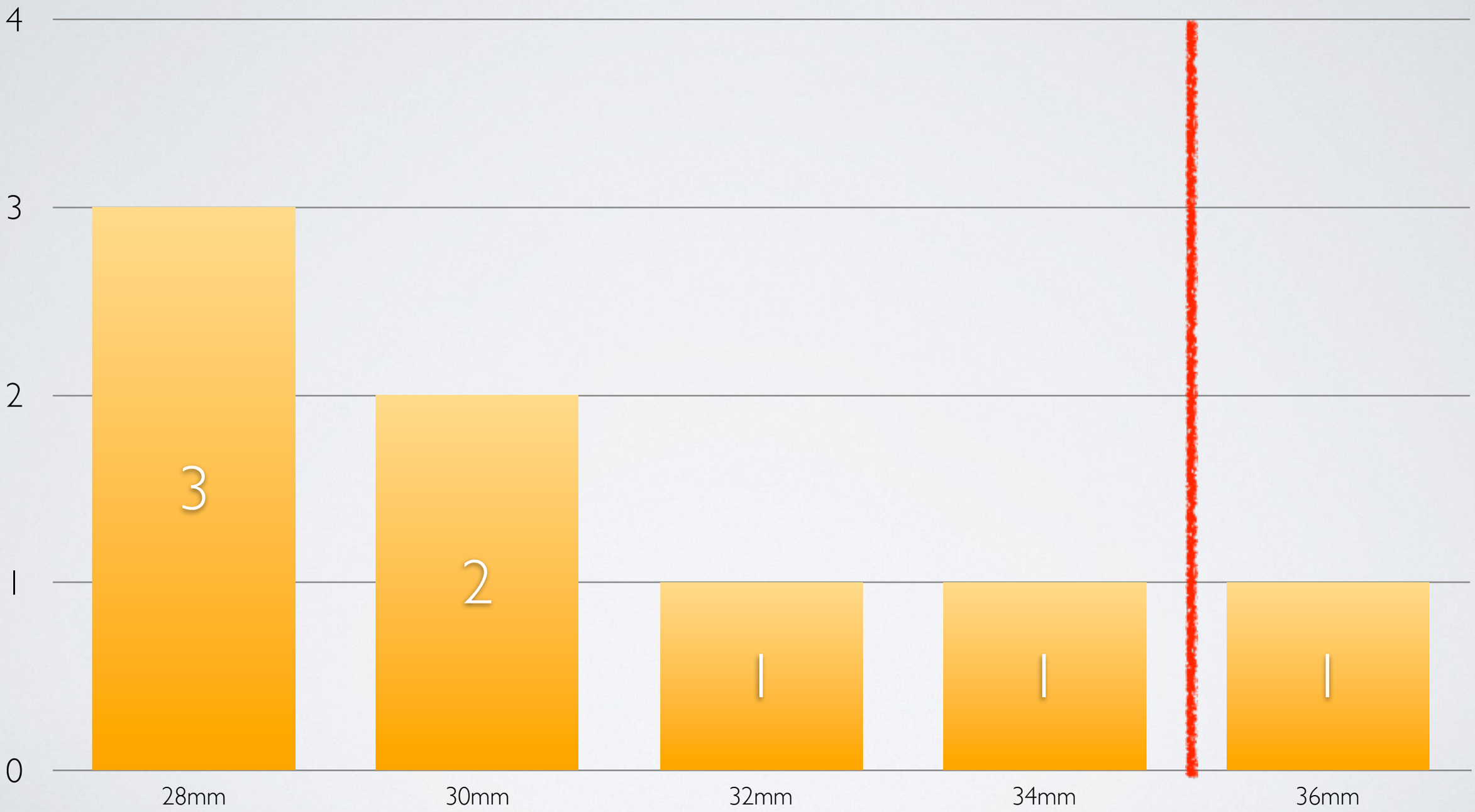
- **Nº de fenestracions:**
  - 2: 4 (50%)
  - 4: 4 (50%)



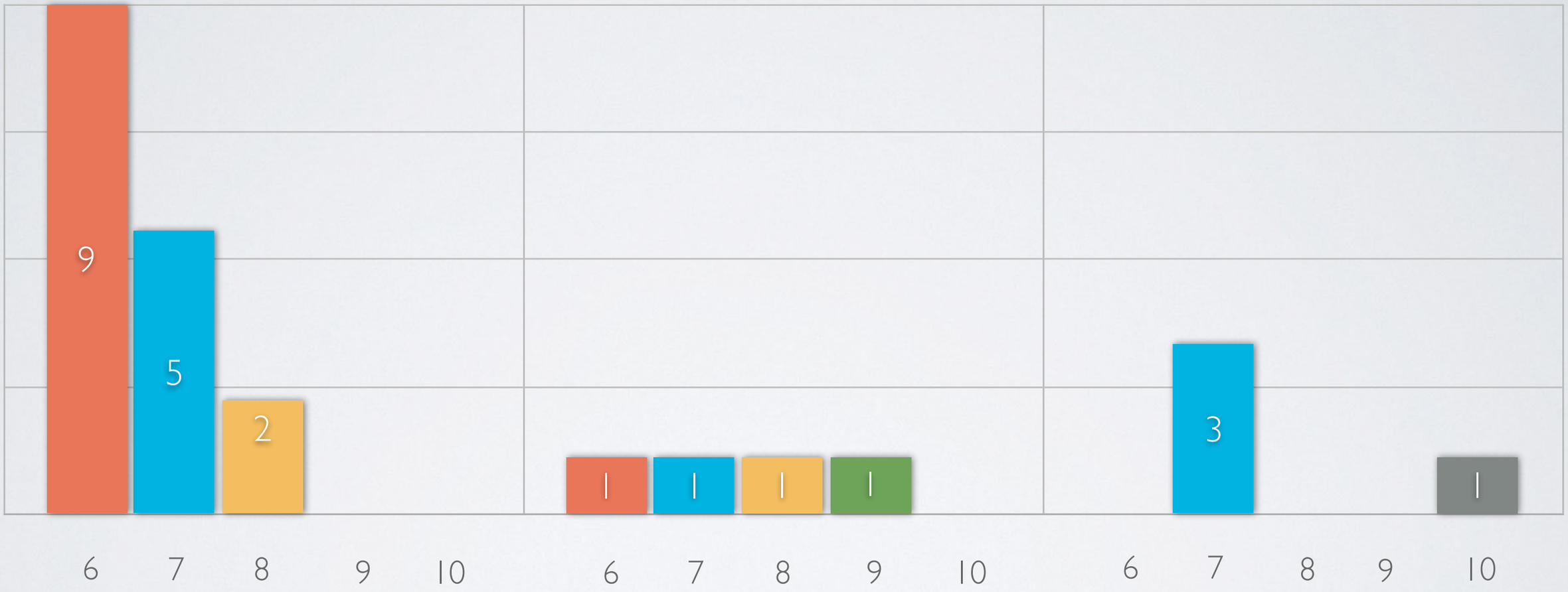
FACTORS DE RISC



DIÀMETRES ENDOPRÒTESI

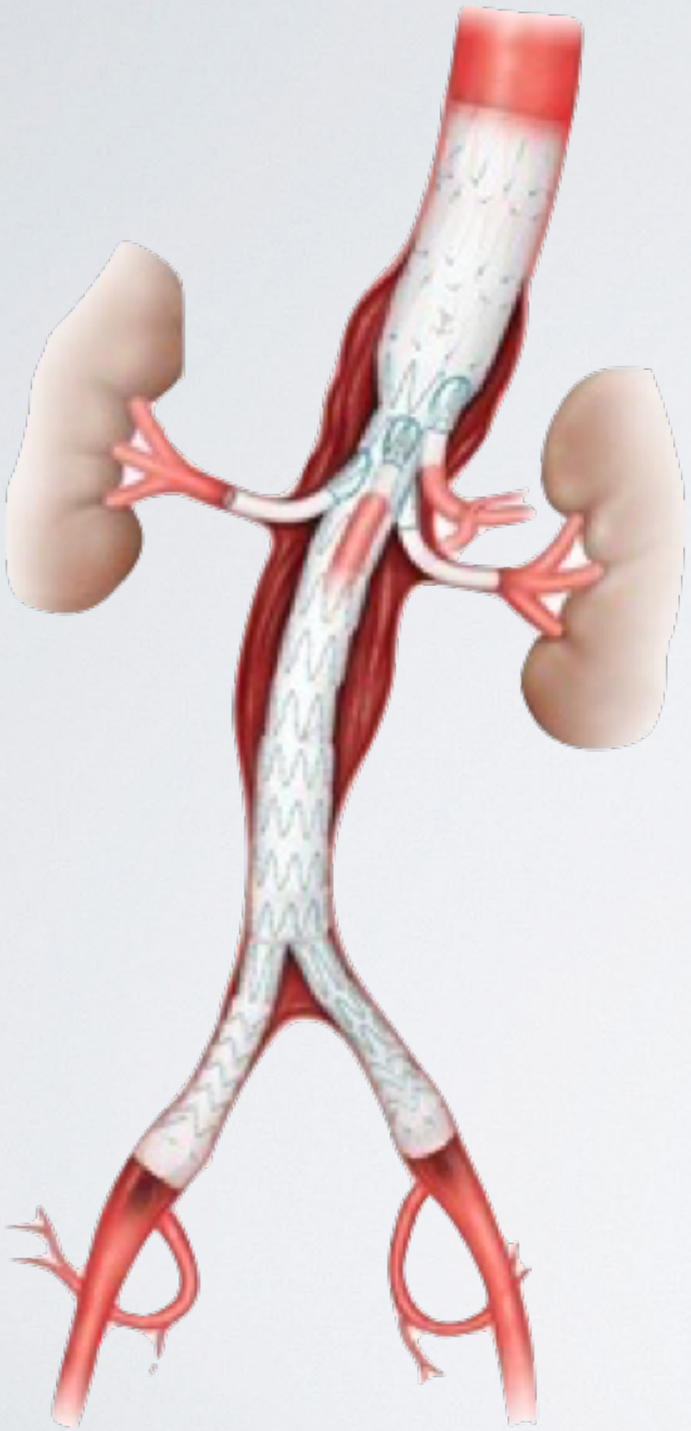


DIÀMETRES STENTS VISCERALS (ADVANTA V12 / E-VENTUS)



Arteria renal AMS TC

RESULTATS



Segellat distal: ilíaca

- **A. Ilíaca primitiva: 12 (86%)**
  - 13mm: 3
  - 15mm: 4
  - 17mm: 2
  - 21mm: 1
  - 23mm: 2

- **A. Ilíaca externa: 2 (14%)**
  - 10mm: 2 (Amplatzer)

Segellat aòrtic distal: 1

RESULTATS INMEDIATS

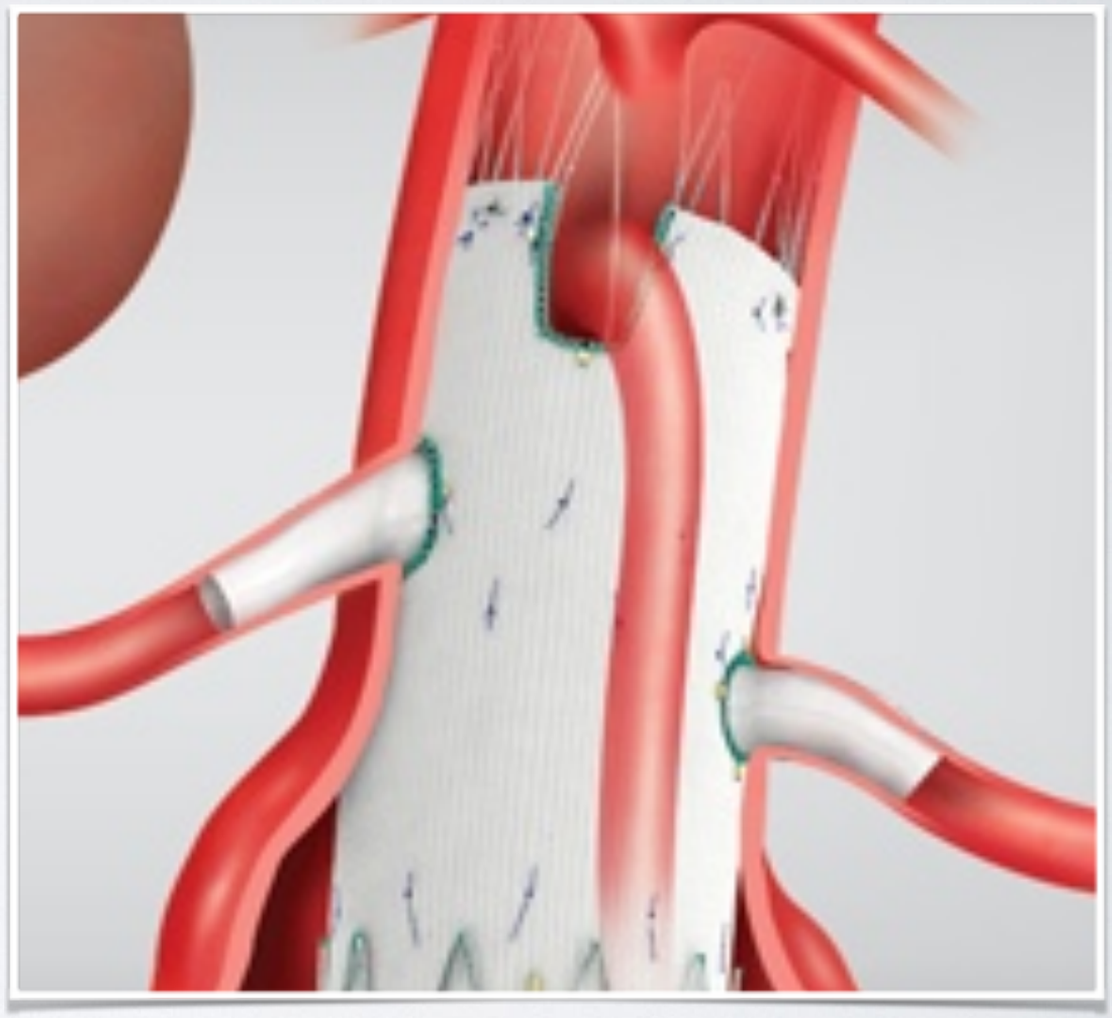
Conv. cir. oberta

Èxit tècnic

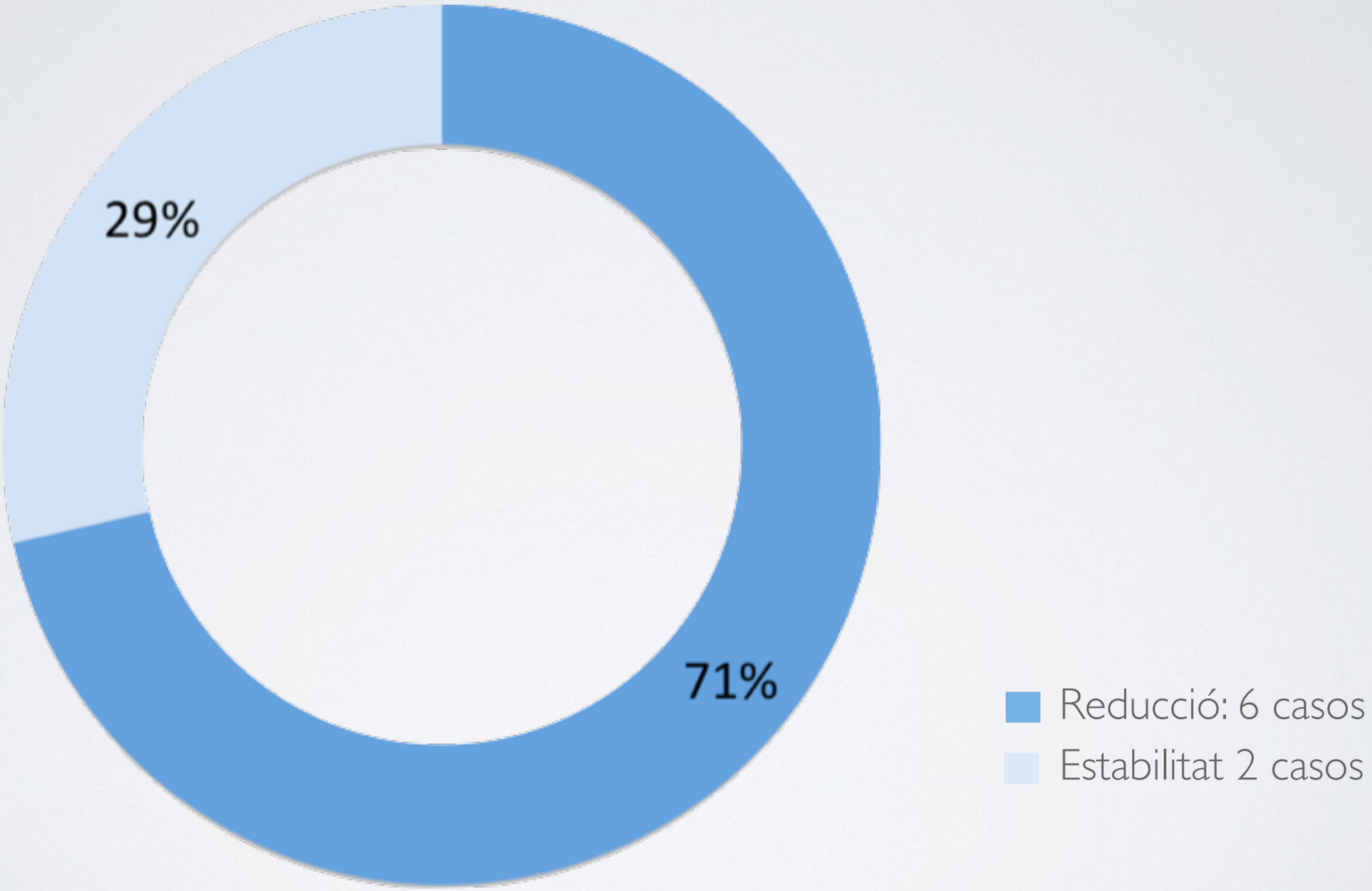
Mortalitat

RESULTATS

- **Seguiment mig**: 12,7 meses (2-26 meses)
- **Endoleak tipo I (renals)**: 1 caso (1 mes)
- **Endoleak tipo II**: 1 caso
- **Permeabilitat injert**: 100%
- **Permeabilitat branques viscerals**:100%



COMPORTAMENT DEL SAC



CONCLUSIONS

- Els resultats inicials i a curt termini amb endopròtesis fenestrades tenen un **baix índex de complicacions** i una **alta taxa d'èxit tècnic** per als aneurismes juxtarrenals i pararrenals.

- Són necessaris resultats a llarg termini i amb un major nombre de casos.