

How to prevent 'or rather minimize' SCI in TAAA endo repair

Krassi Ivancev
The Royal Free Hospital, London

Disclosure

- Cook Medical Inc.
 - Patent licenses/Royalties
 - Research funds
 - Travel expenses

Table 4. Mortality and SCI Classified by Extent of Aneurysmal Disease

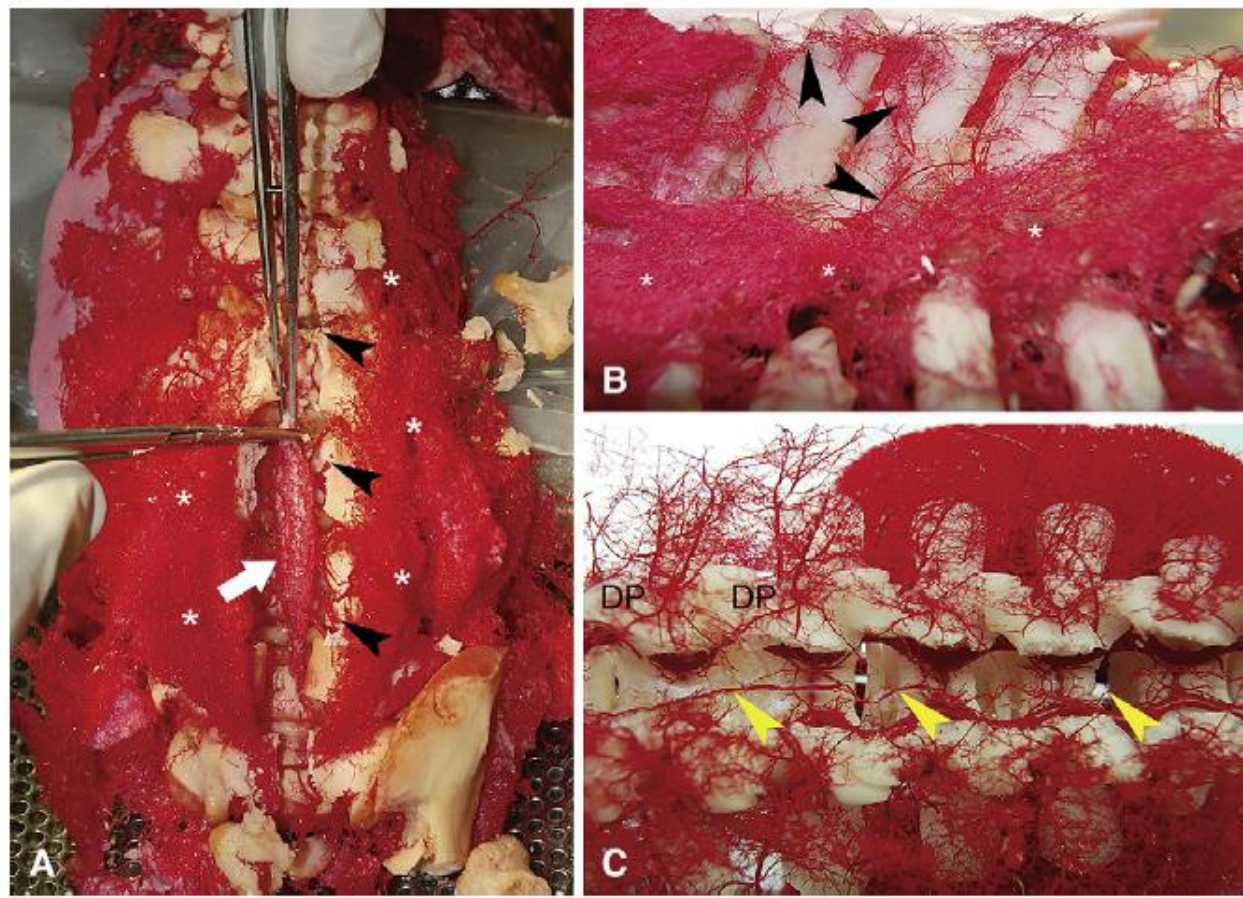
Extent	Repair Technique	n	Mortality at 30 d			Mortality at 1 y			SCI	
			n	%*	Rate†	n	%*	Rate†	n	%
None	ER	163	TEVAR: NO SCI issue						1	1
	SR	136							1	1
I	ER	82	SPINAL CORD ISCHEMIA AFTER fTEVAR and bTEVAR						10	10
	SR	51							14	14
II	ER	16							19	19
	SR	59							22	22
III	ER	22							5	5
	SR	62							10	10
IV	ER	69							3	3
	SR	64							2	2
All	ER	352	20	6	0.72	55	16	0.21	15	4
	SR	372	31	7	1.07	59	15	0.19	28	8

Greenberg et al Circulation 2008, 118:808-817

Strategies to Prevent Paraplegia in fEVAR and bEVAR in TAAA

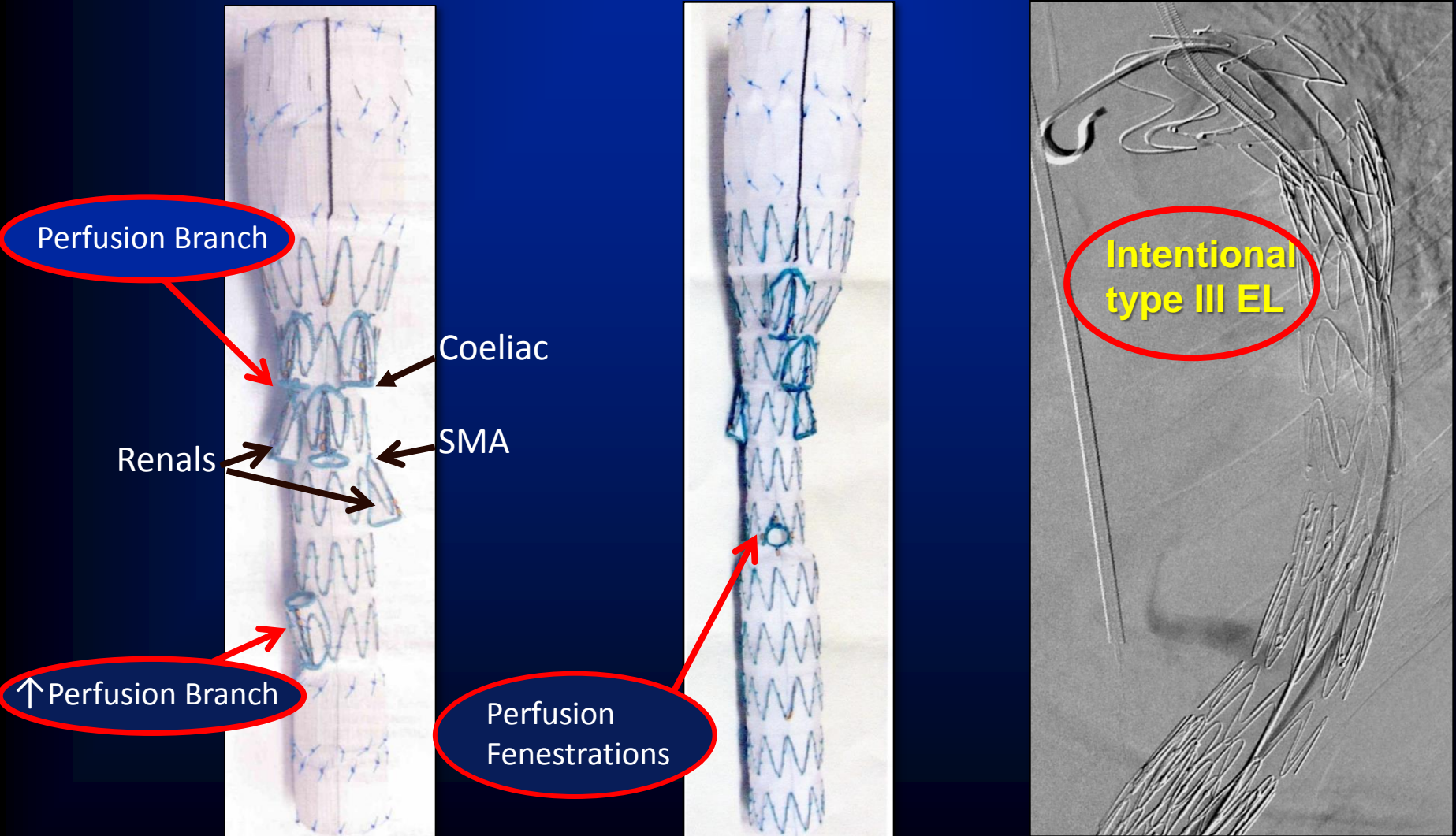
- Hemodynamic management
- CSF drainage
- With temporary TAAA aneurysm perfusion

An intact collateral network is more critical than a small number of critical segmental arteries

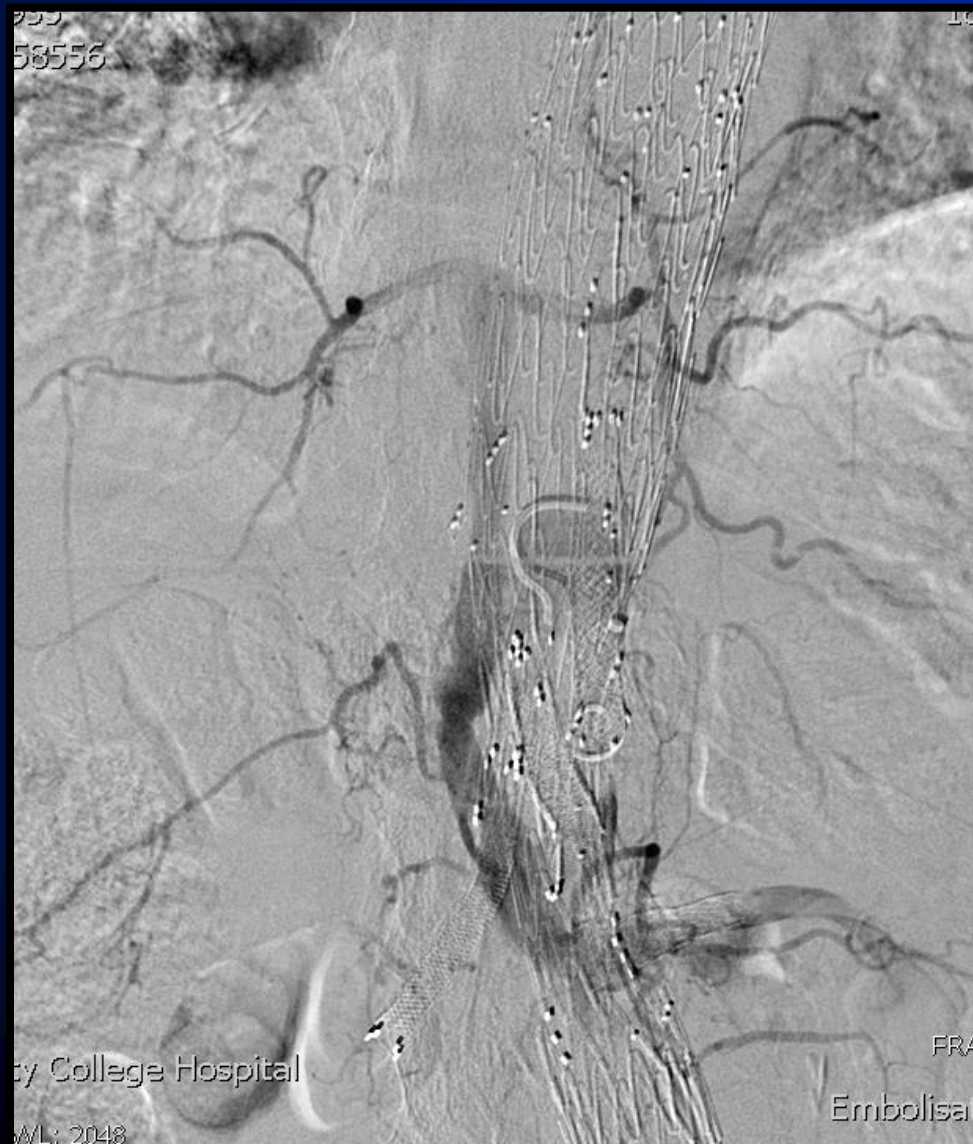


Courtesy of
Dr. C Etz.

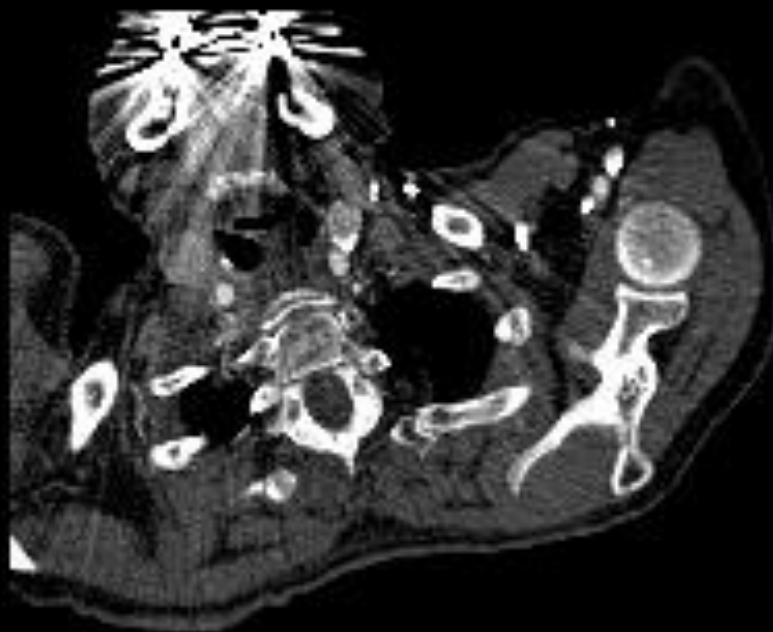
Aneurysm Perfusion Techniques



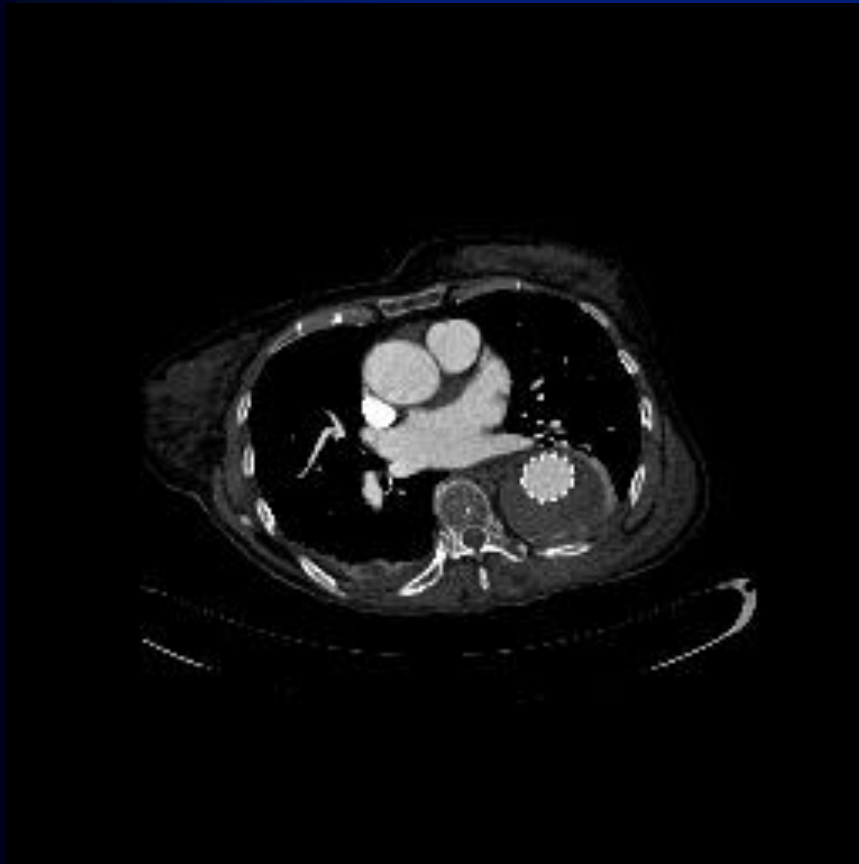
Aneurysmography through Perfusion Branch



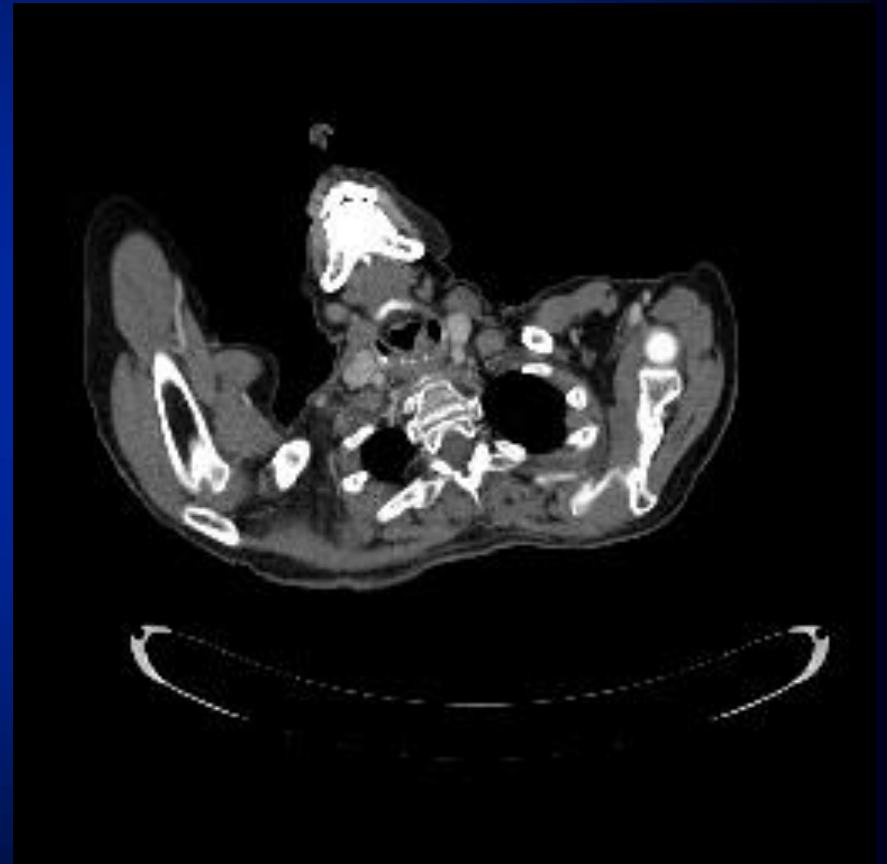
Pre-op



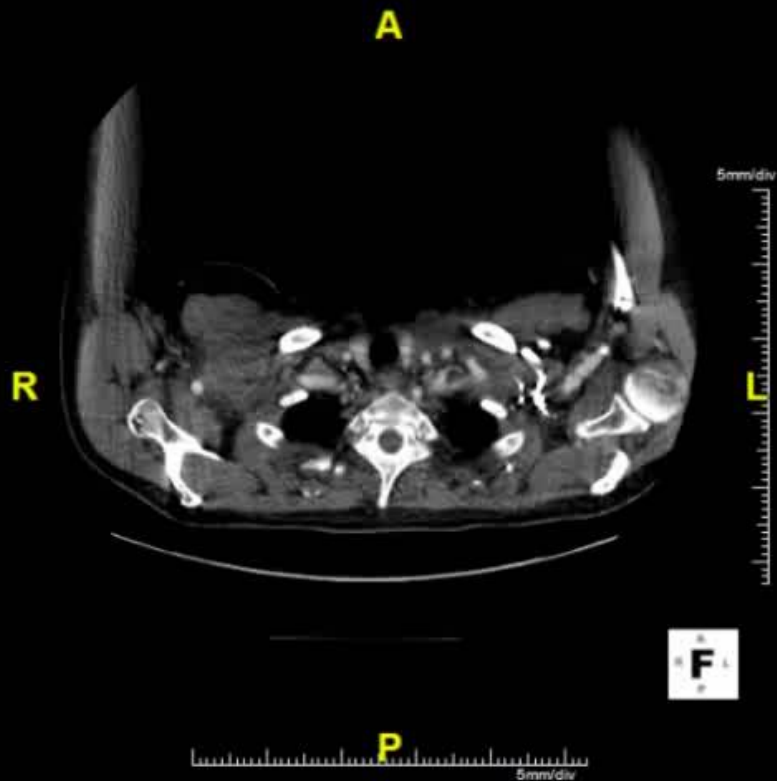
Sac perfusion



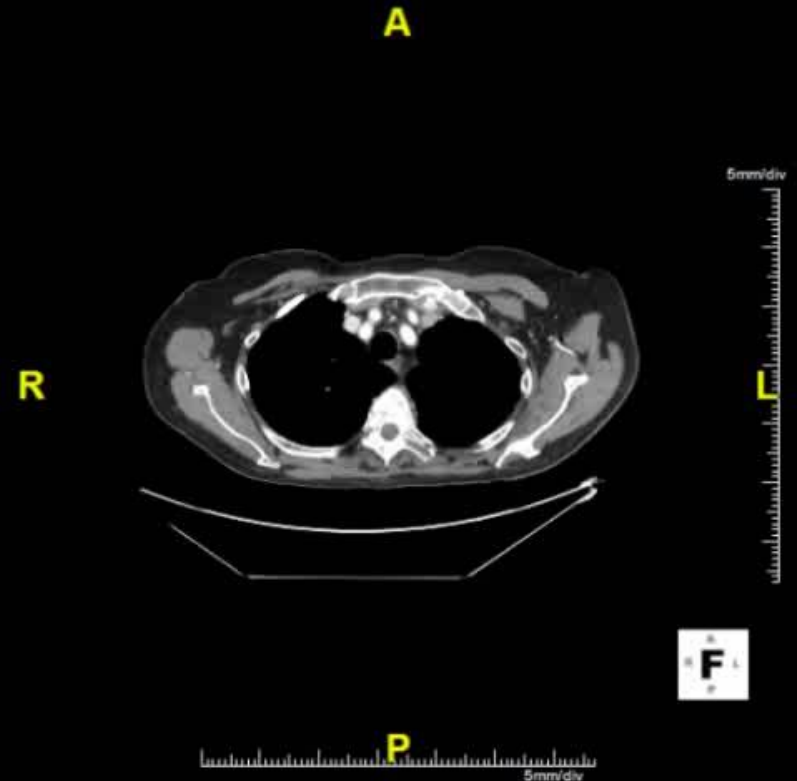
Excluded TAAA



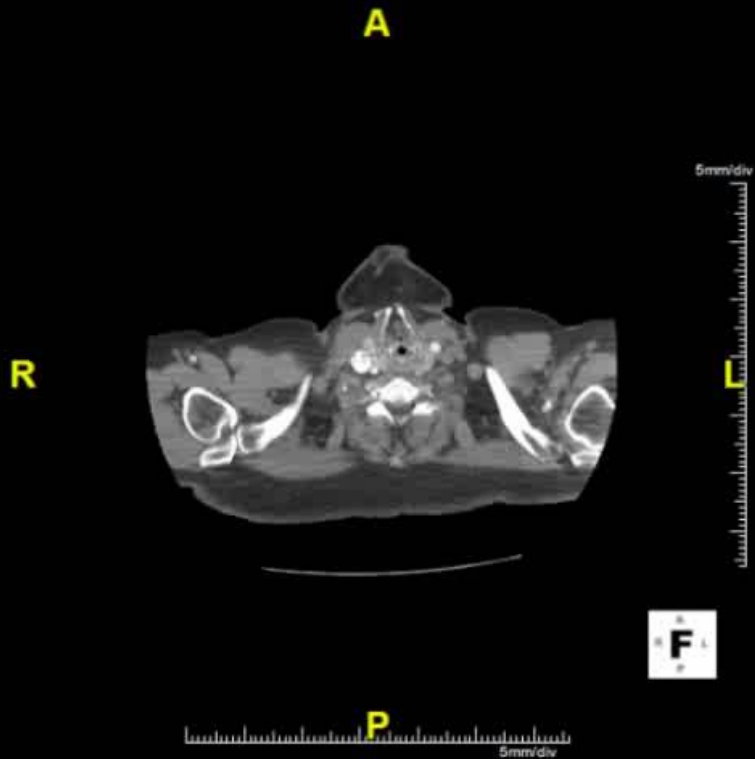
Sac perfusion



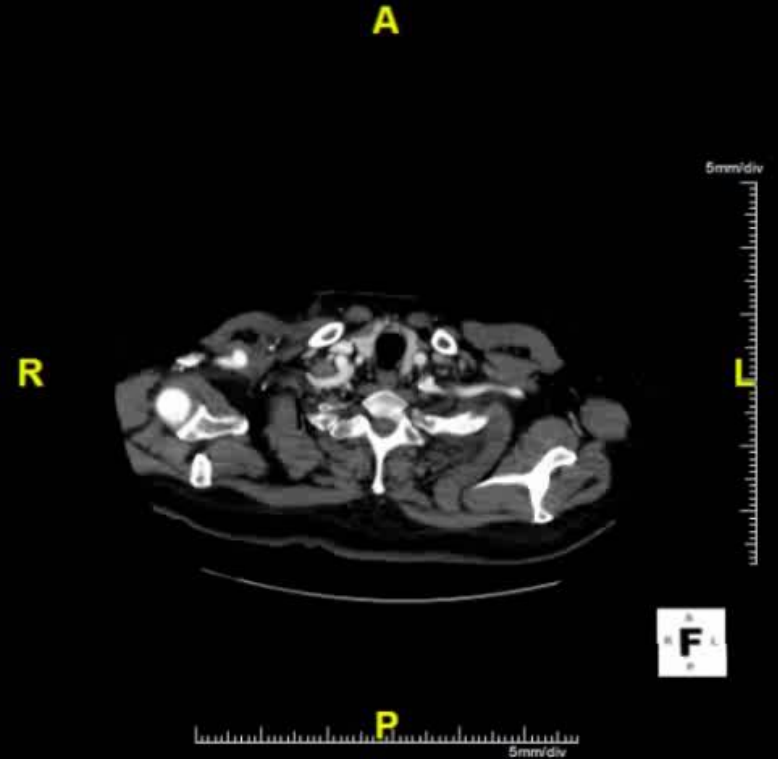
Excluded TAAA



Pre -op



Excluded TAAA



Staged Repair

> 4 hours

INSERTION OF BRANCHED
STENT GRAFT

Stage 1

- GA
- CSF drain

2 weeks -4 months

< 1 hour

CLOSURE OF PERFUSION

Stage 2

- CSF drain
- Completion angio

Type of Spinal Cord Ischaemia

TAAA Crawford Type (pt no)	Temporary SCI (%)	Reversible SCI (%)	Permanent SCI (%)
2 (n=23)	6 (26%)	1 (4%)	1 (4%)
3 (n=14)	2 (14%)	0	0
4 (n=12)	0	0	0

Effect of aneurysm perfusion on SCI

23pts Type 2 TAAA

- 21 Perfusion
- 7 Temp/Reversible SCI
- 2 No Perfusion
- 1 Permanent Paraplegia
- 1 No SCI

Medium term results 2008-2015

10 pts that had SCI:
median 3yrs - follow up

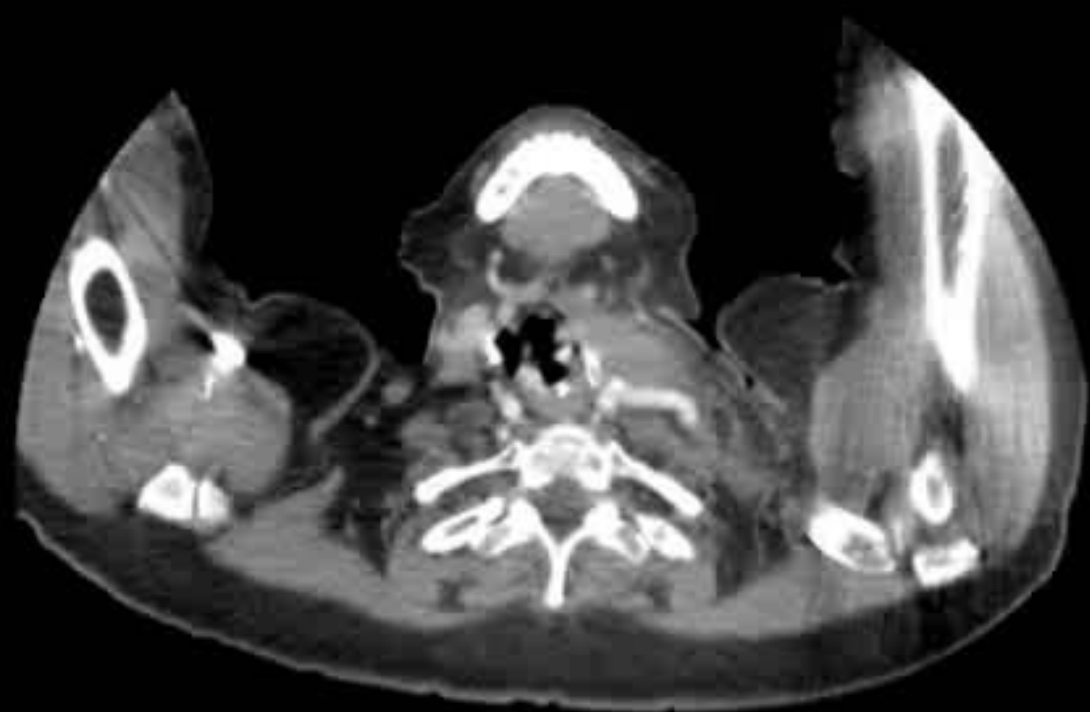
3 Dead

6 Alive with **NO SCI sequelae**

1 Alive and paralysed

Problems

- Failure to proceed to 2nd stage
 - 1 patient refused further surgery
 - 1 patient had serious cardiac event
- Insufficient blood supply to target organs if branches not connected may result in ischaemia



Conclusions/Future Perspectives

- Temporary sac perfusion is safe and feasible
- It appears to reduce SCI in fEVAR/bEVAR in TAAA
- Still requires CSF drainage & BP control