Surgical treatment outcomes for thoracic aortic graft infections

Objectives

- Aortic graft infections (AGI) are complex pathologies with high morbidity and mortality rates
- Antibiotic treatment and excisional surgery are paramount to achieve infection control
- AGI are underreported and literature is scanty
- We aim at describing characteristics and treatment outcomes of AGI

Patients

- Patients with an infected aortic root, ascending aorta or aortic arch prosthesis that were reoperated
- 18 years of age or older
- Patients treated without reoperative surgery were excluded
- Descending/abdominal aorta or peripheral prosthesis were excluded

Methods

- Retrospective analysis of prospectively collected data from an ongoing cohort (VASGRA)
- Qualitative variables expressed as numbers and percentages. Quantitative variables expressed as median and interquartile range (IQR)
- Kaplan-Meier for survival analysis
- Local ethics committee approval

Results 1

	REOPERATIVE-SURGERY (N=22)
Age, MEDIAN YEAR (IQR)	62.5 (55.6-72.7)
Sex (male), N (%)	21 (95.5)
Arterial hypertension, N (%)	18 (81.8)
Diabetes mellitus, N (%)	5 (22.7)
Atrial fibrillation, N (%)	7 (31.8)
Peripheral vascular disease, N (%)	0
Cerebrovascular disease, N (%)	6 (27.3)
COPD, N (%)	1 (4.5)
Creatinine, N (%)	97.5 (85.5-120.5)
Fever, N (%)	15 (68.2)
CRP, MEDIAN MG/L (IQR)	115.5 (24.7-252.2)
WBC MEDIAN CELLS X 10^9 (IQR)	10.3 (8.2-13.3)
Malignancy, N (%)	3 (13.6)
NYHA* III / IV, N (%)	7 (31.8)
BMI, MEDIAN KG/M^2	27.4 (24.9-29.9)
LVEF, MEDIAN % (IQR)	54.5 (46.7-70)
Charlson comorbidity index, MEDIAN (IQR)	1 (0-4)
EuroSCORE II, MEDIAN (IQR)	32 (16.2-48.3)
Time to diagnosis, MEDIAN MONTHS (IQR)	54.5 (18-99.5)
Early infection, N (%)	0

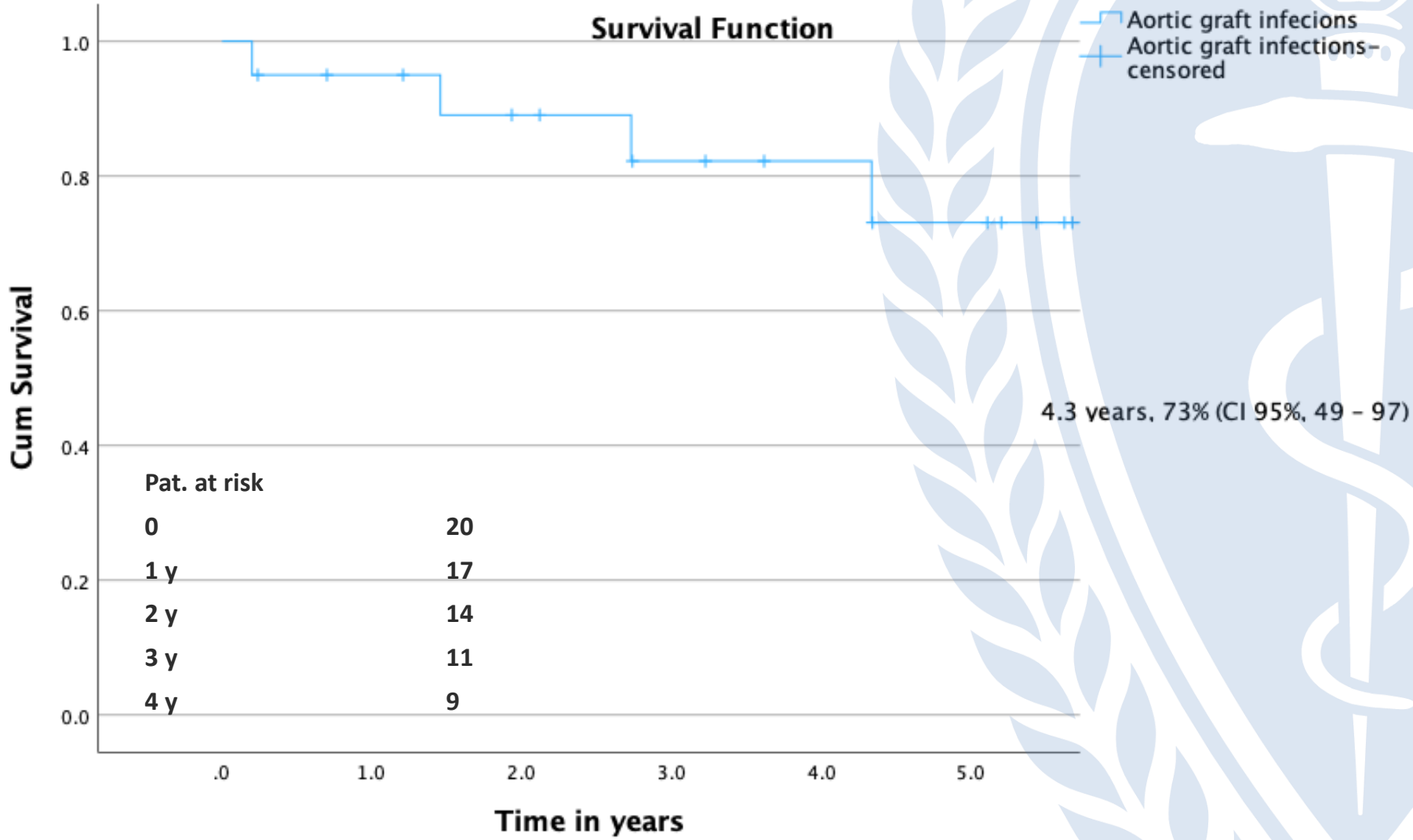
Results 2

	OVERALL (N=22)
INDICATION INDEX SURGERY	
Type A aortic dissection, n (%)	9 (40.9)
Aortic aneurysm, n (%)	12 (54.5)
INDEX SURGERY	
Bentall-de Bono operation, n (%)	13 (59.2)
AORTIC ARCH SURGERY, n (%)	1 (4.5)
POLYESTER GRAFTS, n (%)	20 (90.9)
Urgent / emergency surgery, n (%)	13 (59.2)

Results 3

RE-OPERATIVE DATA	OVERALL (N=22)
CUTANEUOUS ABSCESS, n (%)	4 (18.1)
MEDIASTINAL ABSCESS, n (%)	12 (54.5)
ROOT ABSCESS, n (%)	10 (45.4)
DURATION, MIN (IQR)	450 (327.5-540)
X-CLAMPING, MIN (IQR)	130 (112-199)
ECC, MIN (IQR)	247 (174.5-310.5)
RE-BENTALL, n (%)	14 (63.6)
OPERATIVE MORTALITY, n (%)	3 (13.6)
STAPHYLOCOCCI, n (%)	8 (36.3)

Results 4


Survival Function
Aortic graft infecions
Aortic graft infections-censored
Cum Survival
1.0
0.8
0.6
0.4
0.2
0.0
4.3 years, 73% (CI 95%, 49 - 97)
Pat. at risk
0 20
1 y 17
2 y 14
3 y 11
4 y 9
.0
1.0
2.0
3.0
4.0
5.0
Time in years

Conclusion

- **AGIs are complex pathologies with an expected high mortality if left untreated**

- **Re-operative surgery with thorough debridement and replacement of the infected prosthesis offers good results with excellent survival at 4 years**