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Nighttime and weekend surgery in frozen elephant trunk procedures for acute aortic dissections

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Nighttime and weekend surgery in frozen elephant trunk procedures for acute aortic dissections

Objective:

- Commercially available Frozen Elephant Trunk (FET) prostheses have only recently been introduced into the US market
  - Clinical experience in FET procedures is still limited
- Use of the FET technique for acute aortic dissections (AAD) is still a complex procedure and is associated with increased early mortality, even when used by experienced users

➢ To evaluate the influence of nighttime and weekend surgery, where medical staff (surgeons, anesthesiologists and ICU personnel) may not be the core aortic team and to share our experiences with centers aiming to initiate a FET program

Methods

- Data from our dedicated institutional FET database
- Indication for FET procedure as discussed in our multidisciplinary aortic case conference
- Multivariable logistic regression analysis including 9 covariables
  - nighttime and /or weekend surgery
  - prior cardiac/aortic surgery
  - hereditable thoracic aortic disease
  - age >70y
  - surgery on the aortic root
  - distal landing zone 2 vs. 3
  - concomitant CABG
  - cerebral perfusion time >75 minutes
  - aortic cross clamp >140 minutes

Baseline Characteristics

	Group 1 (n= 44)	Group 2 (n=32)
Age (years)	61.6 ± 14.2	56.5 ± 16.8
Age >70 years	31.8% (n= 14)	18.8% (n= 6)
Male sex	70.5% (n= 31)	78.1% (n= 25)
HTAD	20.5% (n= 9)	15.6% (n=5)
Prior cardiac/aortic surgery	9.1% (n= 4)	0.0% (n= 0)

Group 1: FET during daytime; Group 2: FET during nighttime and/or weekend; HTAD: Hereditable thoracic aortic disease

Procedural Data

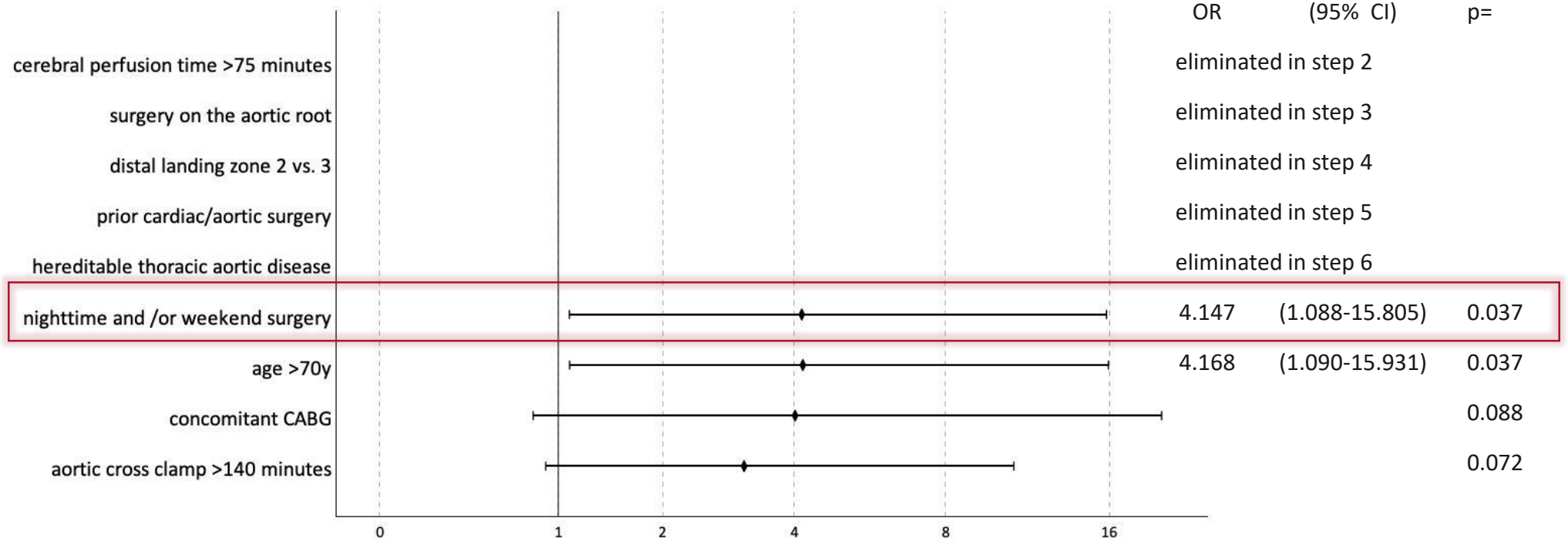
	Group 1 (n= 44)	Group 2 (n=32)
Surgery on the aortic root	18.2% (n= 8)	25.0% (n= 8)
Distal landing zone 2	59.1% (n= 26)	46.9% (n= 15)
Concomitant CABG	18.2% (n= 8)	6.3% (n= 2)
Aortic cross clamp (min.)	144 ± 59	151 ± 60
Selective antegrade cerebral perfusion (min.)	81 ± 32	82 ± 34

Group 1: FET during daytime; Group 2: FET during nighttime and/or weekend

Statistical analysis – 30-day mortality

Multivariable Logistic Regression Analysis with stepwise backward elimination

	Group 1 (n= 44)	Group 2 (n=32)
30-day mortality	15.9% (n= 7)	31.3% (n= 10)*



*p= 0.16

Conclusions

- In our patient cohort FET surgery for AAD during nighttime and/or weekend was independently associated with an elevated 30-day mortality

- Since the core aortic team, consisting of specialized surgeons, anesthesiologists and ICU personnel are usually not present during these hours we suggest
  - either reducing the complexity of the surgical procedure
  - or having a dedicated FET-team on call at all hours.

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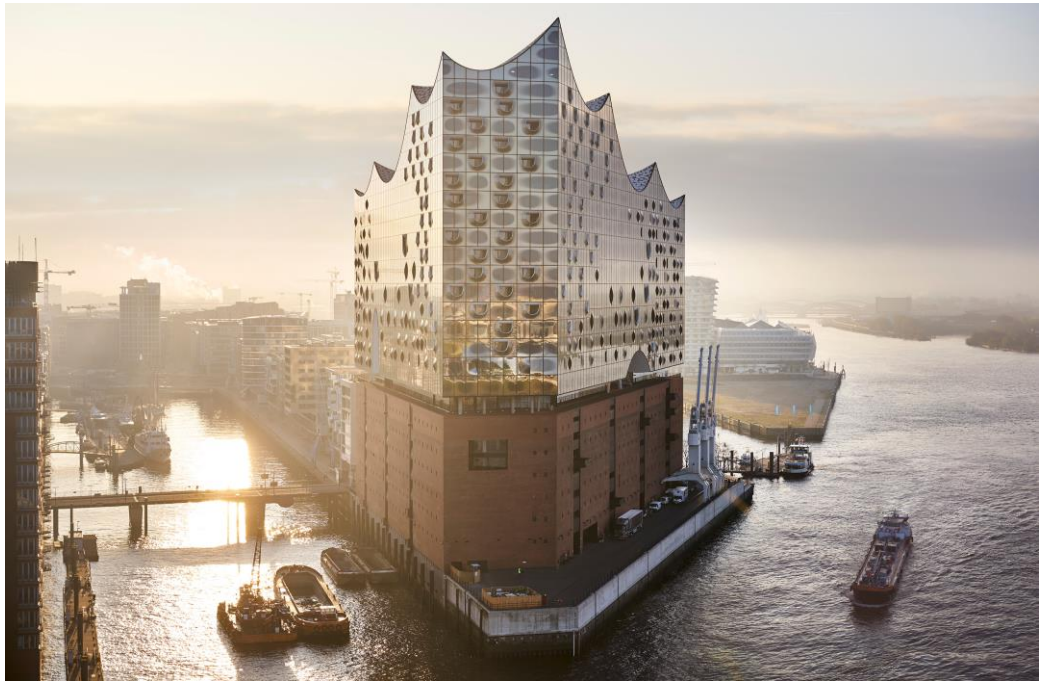

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