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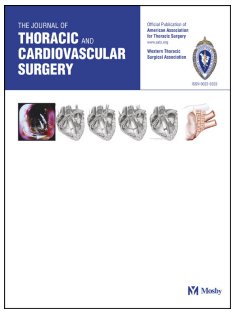

Commentary: Acute type A Aortic dissection: when sample size does matter

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Commentary: Acute type A Aortic dissection: when sample size does matter

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Central Message: age *per se* is not considered as an exclusion criterion for surgery. However, further studies with large sample size are required to confirm these conclusions.

Central Picture Legend: Antonio Miceli, MD, PhD, Francesco Donatelli, Prof, MD, Mattia Galuber, MD, PhD

Acute type A aortic dissection (ATAAD) is a life threatening condition associated with high mortality and morbidity within the first 48 hours. Operative mortality is high and depends on patient's morbidities, preoperative clinical conditions and the extension of aortic dissection. [1]

According to most common risk calculators (STS, EuroSCORE), age is an important risk factor for adverse outcomes and drives an important role in the decision making for surgery or medical treatment. Bruno et al. found old patients had 2 fold increased risk of short-term mortality compared to young population, advising conservative management in selected "old" patients.[2] Nevertheless, an insight from the International Registry of Acute Aortic dissection on a 20-year experience concludes that surgical management is significantly associated with lower mortality than medical therapy until the age of 80. For those aged 80 to 90 years mortality is still lower but not statistically significant, because of limited patient numbers. [3]. These controversial have risen the ethical dilemma of treatment and the following questions: how old is "old"? To cut or not to cut? [4]. In this issue of Journal, Bojko et coll. give their contribute to the questions concluding that early and midterm survival and quality of life after surgery for ATAAD are similar in octogenarians and septuagenarians [5]. Furthermore, octogenarians who survive at initial operation have comparable long-term survival to an age and sex matched population.

Results are excellent and probably outweigh the medical treatment. However, some limitations are present. First, this paper is limited by the small sample size as only 70 octogenarians were analyzed and the large confidence intervals reported in multivariable analysis highlight the low number of events occurred. Then, the median and interquartile range for octogenarian was 83 (81-85), which assumes that most patients over 85 received a medical treatment. Finally, outcome depends on weight of surgical procedure. In the setting of ATAAD, proximal aortic root repair represents the simplest and shortest operation with the least adverse impact on patient. Compared to septuagenarians, octogenarians received more proximal aortic root repair and only one aortic arch replacement.

In conclusion, age *per se* should not be considered as an exclusion criterion for surgery. Bojko et coll. demonstrated that octogenarian patients have comparable outcomes with septuagenarians, in terms of survival and quality of life. However, poorer preoperative clinical condition and aggressive surgical techniques might be associated with increased morbidity and mortality. An “aortic” risk calculator, which takes into account age, risk factors and patients’ frailty, might be helpful in decision making process and select patients who benefit the surgical procedure over medical treatment. However, we need more numbers. Sample size does matter….

References

1. Miceli A, Murzi M, Lio A, Farneti PA, Etz CD, Glauber M. Hybrid approach in acute aortic dissection. Innovative grafts for the aortic arch replacement. Esposito G. 2016; 91-99.

2. BrunoVD, Chivasso P, Guida G, Vohra HA. Surgical repair od Standford type A aortic dissection in elderly patients: a contemporary systematic review and meta-analysis. Ann Cardiothorac Surg 2016;5:257-264.

3. Evangelista A, Isselbacher, EM, Bossone E, Gleason TG, Di Eusanio M, Sechtem U, Ehrlich MP et al. Insight form the international registry of acute aortic dissection. A 20-year experience of collaborative clinical research. Circulation 2018;137:1846-1860.

4. Estera AL, Safi HJ. Aortic dissections in the elderly. Ethical dilemma of treatment. Tex Heart Inst 2012;39:831833.

5. Bojko MM, Suhail M, Bavaria JE, Bueker A, Hu RW, Harmon J, Habertheuer A, et al. Midterm Outcomes of Emergency Surgery for Acute Type A Aortic Dissection in Octogenarians. J Thorac Cardiovasc Surg. 2020: in press.