

The inhomogeneous mechanical behaviour of Ascending Thoracic Aortic Aneurism (ATAA)

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Surgical management of ascending thoracic aortic aneurysms (aTAAs) relies on maximum diameter, growth rate, and presence of connective tissue disorders. The surgical decision however is often not considering that dissection and rupture do occur in patients who do not meet criteria for surgical repair [1,2]. In this study the authors aim to investigate the mechanical properties of aTAAs to be implemented in computational biomechanics models for a preclinical risk evaluation. Additionally, in some recent studies, some data about the biomechanical properties of the aTAAs have been reported [3], but without any relation to bicuspidal or tricuspidal aTAA. The aim of this study was to investigate aTAA mechanical properties using a biaxial system to compare the circumferential and axial stress-strain relations for bicuspidal and tricuspidal aTAAs.

References

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