MORPHOMETRIC STUDY OF THE ARCH OF AORTA AND ITS BRANCHES WITH ITS CLINICAL SIGNIFICANCE

ABSTRACT

AIM:

The purpose of the study is to find the dimensions of the arch of aorta and its branches and to observe its branching pattern.

MATERIALS AND METHODS:

The present study is conducted in 50 adult human cadavers at the Institute of Anatomy, Madras Medical College, Chennai. By conventional dissection method, the arch of aorta and its branches are dissected and studied. The dimensions of the arch of aorta and its major branches are measured and observed for any anomalies.

OBSERVATION:

The mean external diameter of the arch of aorta at its beginning and termination, the brachiocephalic trunk, the left common carotid artery and the left subclavian artery are 31mm, 23mm, 13mm, 7.8 mm, 9mm respectively. The mean distance of origin of the brachiocephalic trunk, the left common carotid artery and the left subclavian artery from the midline are 8mm, 17mm and 28mm respectively. The average angles formed between the brachiocephalic trunk, the left common carotid artery and the left subclavian artery with the aortic arch are 86^0, 83^0, 97^0 respectively. Out of 50 cadavers, 88% of the arch of aorta has normal branching pattern, 8% has bovine arch pattern, 2% has vertebral pattern and 2% has aberrant right subclavian artery.

CONCLUSION:

The knowledge of the morphometric study of the arch of aorta and its branches will be useful for performing safe and effective endovascular surgeries in the mediastinal region.

KEYWORDS:

Arch of Aorta, Morphometry.