Conference Abstract

DAY 2 16th September 2023 (Saturday) | POSTER | 11.00 am-12.00 pm | Scientific Session 1

A study on morphometric analysis of mitral valve in embalmed human hearts: An insight into its clinical implications

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Background: Congenital or acquired valvular heart diseases are not uncommon and mitral valve is most commonly affected. Valve repair or replacement surgeries are commonly done to restore its function using biological tissues or any synthetic prostheses. Considering the complexity of mitral valve complex, detailed knowledge of the dimensions of its components is important to assess the valve pathology and to design an appropriate prosthesis.

Aim: To study the morphometry of mitral valve by measuring various parameters of valve leaflets and annulus.

Methods: This study was conducted using 50 formalin fixed human hearts in the department of Anatomy, Father Muller Medical College, Mangalore. The left atrium and left ventricle were opened by lateral incision and mitral valve leaflets were exposed. Parameters like,annular circumference (C), length and height of anterior and posterior leaflets of mitral valve were measured. Annular diameter was also measured. Descriptive statistical analysis was done using these parameters.

Results: In the present study, the mean annular circumference of mitral valve was measured to be 10.29±1.28cm. Average Length and height of anterior leaflets were 4.51±0.68cm and 2.03±0.32cm respectively. Average Length and height of posterior leaflets were 5.46±0.91cm and 1.16±0.29cm respectively. The mean Annular diameter was calculated as 3.27±0.41cm.

Conclusion: Surgical interventions on the mitral valve complex demands an accurate knowledge of its normal anatomy and its dimensions. The present study provides a database of valvular morphometry in comparison with many published data of different geographical and racial origin. This will help manufacturers to develop synthetic prostheses and also cardiac surgeons to undertake valve reconstructive surgeries successfully.

Key words: Mitral valve, morphometry, valve replacement, valve prosthesis