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Atrioventricular annuli are important in haemodynamic flexibility, competence, and support for tricuspid and mitral valves. The anatomical features of the annuli, such as circumference, organisation of connective tissue fibres, myocardium, and cellularity, may predispose to annular insufficiency and valvular incompetence. These pathologies occur more commonly in females, although the anatomical basis for this disparity is unclear. Sex variation in the structure of the annuli is important in providing a morphological basis for the patterns of these diseases. This study therefore aimed to determine the sex variations in the structure of human atrioventricular annuli. One hundred and one hearts (48 males, 53 females) obtained from the Department of Human Anatomy of the University of Nairobi were studied. Annular circumferences were measured using a flexible ruler and corrected for heart weight. Results were analysed using SPSS version 17.0 and sex differences determined using student.s t-test. A p-value of less than 0.05 was considered significant. For light microscopy, specimens were harvested within 48 hours post-mortem, processed, sectioned, and stained with Masson.s trichrome and Weigert.s elastic stain with van Gieson counterstaining. Females had significantly larger annular circumferences than males after correcting for heart weight ($p \leq 0.05$). Histologically, myocardium was consistently present in all male annuli while this was absent in females except in one specimen. The annuli were more elastic and cellular in males especially in the annulo-myocardial and annulo-valvular zones, respectively. The corrected larger annular circumference in females may limit heart valve coaptation during cardiac cycle and may be a risk factor for valvular insufficiency. The predominance of myocardium, annular cellularity, and elasticity may be more protective against heart valve incompetence in males than in females. (Folia Morphol 2012; 71:1:1)