

Muscle Bundles of Myocardium in Dextrocardia of Thai

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ABSTRACT

Dextrocardia was found in a 43-year-old Thai man. We examined the myocardial architecture in the transposed heart and observed that the superficial muscle fibers ran spirally from base to apex in a clockwise direction, being similar to that of a normal heart. In contrast, the middle muscle fibers of the ventricles presented the mirror image of the normal. The results revealed that the superficial muscle fibers of the ventricles in the transposed heart were not a mirror image of the normal and their direction was the same as that of the normal.

Key words: Dextrocardia, Heart, Myocardium

INTRODUCTION

Situs inversus is extremely rare in human. It is generally thought that the incidence of this anomaly is probable one per five to six thousand individuals (Blegen, 1948). In Thai, only one case of situs inversus was reported in an eight-year-old boy (Vichyanond et al., 1993). The authors (Tohno et al., 1983) previously found one case of situs inversus viscerum totalis observed in a 95-year-old woman in the ordinary dissection at Nara Medical University. we (Tohno et al., 1989) examined the myocardial architecture in the transposed heart and observed that the superficial muscle fibers of the transposed heart ran spirally from base to apex in a clockwise direction. Their direction was the same as that of a normal heart. In the study of the four cardiac valves, one case of dextrocardia was found accidentally in Thai hearts. In this paper, we describe dissected results of the transposed heart.

FINDINGS

One case of dextrocardia was found in a 43-year-old Thai man (cadaver No.: 41/47) at Chiang Mai University, who died of hepatoma. The anatomical records except for the heart were absent unfortunately.

(1) Cardiac Chambers

The transposed heart possessed all of four chambers. The superior and inferior venae cavae and the coronary sinus opened into the atrium situated on the left, which had all of the morphological characteristic of a right atrium. In the atrial septum, there was a well-formed fossa ovalis (17 x 4 mm). The tricuspid valve was present in the left atrioventricular ostium. The wall of the left ventricle was only 3–4 mm thick (Fig. 1A). In the right atrioventricular