Sudden death due to high take-off right coronary artery

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SUMMARY
Reported case was 46-year-old woman found dead at the forest park rest area. Autopsy examination revealed grossly but normal in appearance heart weighed 400 gr. The orifice of right coronary artery round in shape was situated in the ascending aorta; 17 mm above the sinotubular junction, there was a high take-off coronary artery with ectopic localization. Dissection of the artery confirmed that the proximal segment of the right coronary artery passed between the aorta and pulmonary artery, with acute, oblique down-ward angulation. We aimed to present the rare coronary anomaly and discuss the case from medico legal aspect.

Keywords: Sudden cardiac death – coronary artery – high take-off – ectopic – autopsy

Náhlé úmrtí při vysokém odstupu věnčité tepny

SOUHRN
Žena 46 roků stará byla nalezena mrtvá v odpočinkové zóně lesoparku. Srdce bylo při pitvě normálního vzhledu váhy 400 g. Kruhovitý odstup pravé věnčité tepny byl ve vzestupné aortě 17 mm nad sinotubulárním přechodem, šlo tedy o vysoký odstup věnčité tepny. Pitva věnčité tepny potvrdila průběh její proximální části mezi aortou a plicnicí s ostrým šikmým ohybem dolů. Tímto sdělením jsme chtěli představit vzácnou koronární anomálii.

Klíčová slova: náhlá srdeční smrt – věnčitá tepna – vysoký odstup – pitva

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The incidence of various congenital coronary anomalies was investigated in different angiographic and autopsy studies (1–8). In normal population right coronary artery orifice was detected to be located in the right sinus of Valsalva, but the position of the coronary orifice described in terms of location related to the sinotubular junction, was reported as less frequent variation defined as "high take-off" right coronary artery (3). In Turkish population the isolated anomalous origin of the right coronary artery was described as rare congenital cardiac malformation, where the great number of the patients remains asymptomatic (8). We report interesting case of sudden cardiac death with high take-off right coronary artery.

CASE REPORT

Reported case was 46-year-old woman found dead at the forest park rest area in her own hut, accompanied by boyfriend. According investigation documents and anamnesis provided by family members and boyfriend, anti-hyperlipidemia medication duration of several years was claimed, her relatives also stated that five days before the death, she applied to the emergency department of the regional public hospital with chest pain and tightness. A complete physical examination was performed. Biochemical analysis was done; blood creatine kinase-MB fraction and troponin T were detected in normal levels, electrocardiogram was examined and considered to be within normal limits, patient was discharged home after eight hours observation status ended. The victim was taken by prosecutor to the Forensic Council Bursa Morgue Department for autopsy examination after crime scene investigation. The case was 160 cm tall and weighed 75 kg. On gross physical examination, there were; needle puncture sites on the left cubital fossa, 2x0,3 cm bruise at the bottom of the left elbow was remarked. In the internal autopsy examination; both lungs showed intensive edema, right lung weighed 440 gr, left lung weighed 400 gr. The pericardium was normal in inspection, the heart weighed 400 gr, grossly but normal in appearance. In the normal position, left coronary artery orifice was observed in left sinus of Valsalva. The orifice of right coronary artery round in shape, measured in 6 mm diameter was situated in the ascending aorta;17 mm above the sinotubular junction, over the right sinus of Valsalva, there was a high take-off coronary artery with ectopic localization (Figure 1). Dissection of the artery was performed and confirmed that the proximal segment of the right coronary artery passed between the aorta and pulmonary artery, with acute, oblique down-ward angulation, which may cause intermittent obstruction to right coronary blood flow during dilatation of aorta and pulmonary trunk. Eleven sections from the heart were evaluated;histopathological investigation did not exposed acute and chronic myocardial ischemia, but hypertrophy and congestion were observed. Organ specimen, blo-

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