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. Autopsy examination revealed grossly but normal in appearance heart weighed 400 g. 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 downward 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
graphic studies (1,2), it was investigated an infant with high take-off of coronary artery abnormalities of ectopic localization in angio-R.

authors stressed regional and ethnic differences in the frequency of the right coronary artery was reported as 0.09 % (8). Some incidence of isolated anomalous origin of the right coronary artery was detected in review study of Villaronga (3). In the study of Ayalp et al reported a “high take-off” right coronary artery orifice with low left orifice in review study of Villaronga (3). In the study of Ayalp et al in adult Turkish population incidence of isolated anomalous origin of the right coronary artery was reported as 0.09 % (8). Some authors stressed regional and ethnic differences in the frequency of coronary artery abnormalities of ectopic localization in angiographic studies (1,2), it was investigated an infant with high take-off of the right coronary artery with coexisting ventricular septal de-fect (9), also association with bicuspid aortic valve was reported (10). In the medical literature there was not established consensus on definition high take off, ectopic coronary artery. In different studies researches inspected and defined coronary arteries with orifices localized 5–20 mm above the sinotubular rim of aortic valve as high take-off, ectopic coronary arteries (3–7). In the presented case right coronary artery was detected in extreme high localization of 17 mm, above the sinotubular junction in the ascending aorta, assembling the case reported by Thakur et al, in which right coronary artery orifice was observed on distance of 20 mm above the sinotubular rim (10). While patients with coronary artery anomalies were reported to carry a disproportionately high risk for sudden death during exertion activities (4–7), in the presented case, there was hospital application story with chest pain complia-flants, despite there was no effort-exercise information before death. Researches proposed that slit-like origin of the right coronary artery and the oblique insertion like in presented case may cause intermittent obstruction, (11), besides in different study it was pro-claimed that compression of the coronary artery particularly when the aorta and pulmonary trunk dilate can lead to decrease of right coronary blood flow (5). There were studies indicating decrease in regional myocardial perfusion (4,5,6,7,8), on the other hand in coronary angiography study the anomalous origin of the right coronary artery was described as rare congenital cardiac malformation, where the great number of the patients remained asymptomatic. In reported case there was no evidence of myocardial ischemia only cardiac congestion was observed in histopatologic investiga-tion. Garg et al (1) proclaimed that investigation of coronary anomalies was significant in patients undergoing coronary arteriography, coronary interventions and cardiac surgery, also underlined that variations in the frequency of primary congenital coronary artery anomalies were associated with a genetic background.

We also state that clinical history details in this case are in concert with the hypothesis that acute myocardial ischemia can induce malignant ventricular arrhythmia in the right coronary artery re-gion in the presence of this anomaly similar to the case observed by Cox et al (11).

Investigation of coronary artery anomalies is significant for determination of sudden cardiac death cases and anatomical classification of the coronary artery variations.

REFERENCES