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RISK OF CARDIAC ANOMALIES IN ABERRANT RIGHT SUBCLAVIAN ARTERY RELATIVE AORTIC ARCH ANOMALIES FOR PEDIATRICS: A CROSS-SECTIONAL STUDY

SOLEIMANTABAR H.¹, SABOURI S.², SHIRBANDI K.^{3*}¹ Department of Radiology, School of Medicine, Imam Hossein Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran² Department of Radiology, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran³ Research Center for Molecular and Cellular Imaging, Tehran University of Medical Sciences, Tehran, Iran*Received 22.08.2023; Accepted for printing 08.10.2023***ABSTRACT**

Introduction: An aberrant right subclavian artery with a normal-sided left aortic arch is the most common congenital anomaly of the aorta.

This study aims to determine the risk of cardiac anomalies associated with aberrant right subclavian artery in relation to aortic arch anomalies among pediatric patients.

Material and methods: This prospective cross-sectional study was performed between 2008 and 2011. Patients with either clinical or echocardiographic findings of congenital heart disease were referred for complementary evaluation with computed tomography angiography.

Results: Finally, 203 patients were included in this study. The prevalence of an aberrant right subclavian artery was presented in 24 patients (11.8%). Moreover, the most common aortic arch anomaly was coarctation 40 (19.7%). The only double outlet right ventricle cardiac abnormality was associated with a higher risk of an aberrant right subclavian artery (relative risk, 1.192; 95% CI, 0.179 – 7.95) relative to other aortic arch anomalies.

Discussion: In conclusion, this study showed that the incidence of aberrant right subclavian artery in an extensive series of Aortic Arch Anomalies had been performed (11.8%). Furthermore, pulmonary atresia, total anomalous pulmonary venous return, aortic coarctation, cervical arch, aortic interruption, tubular hypoplasia, and pulmonary sling were significantly higher in the aberrant right subclavian artery group in contrast with Other Aortic Arch Anomalies. However, just double outlet right ventricle was associated with a higher risk of aberrant right subclavian artery.

KEYWORDS: aortic arch anomalies, subclavian artery, aberrant right subclavian artery, cardiac anomalies.**INTRODUCTION**

Aortic arch anomalies are seen in 1.5% of the population [Ad N, Vidne B, 1999; Bae S et al., 2022]. The most prevalent aortic arch anomaly is a left-sided arch with an aberrant right subclavian artery (ARSA) or arteria lusoria, with a prevalence of 0.5% to 2% of the population [Konstantinou N

et al., 2022]. In these patients, ARSA originated as the last branch of the aortic arch from the Kommerell diverticulum, which is the result of the persistence of the right aortic embryonic arch [van Rosendael P et al., 2021]. Aberrant right subclavian artery, in most cases, crosses the mediastinum

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ADDRESS FOR CORRESPONDENCE:

Kiarash Shirbandi, O.R.C.I.D.: 0000-0002-1055-6606
Research Center for Molecular and Cellular Imaging Tehran University
of Medical Sciences, Kargar Ave, Tehran 1411713137, Iran
Tel.: 009821-66581505
E-mail: Shirbandi.k@gmail.com