Left Superior Vena Cava Accompanying Congenital Heart Diseases in Children, Experience of a Tertiary Care Center


Departments of Pediatric Cardiology, Ankara Children’s Hematology and Oncology Research and Training Hospital, Ankara, Turkey (1)
Departments of Pediatric Cardiology, Dr. Sami Ulus Obstetrics and Gynecology, Children’s Health and Diseases Training and Research Hospital, Ankara, Turkey (2)

Objective
Determining of concomitant persistent left superior vena cava (PLSVC) in patients with congenital heart diseases.

Materials and Methods
Between May 2005 - November 2012, 2663 patients with congenital heart disease and 88 (3.3%) of them, diagnosed with PLSVC, were evaluated retrospectively. The demographic characteristics of patients, concomitant congenital heart diseases, clinical and radiographic findings, echocardiography, cardiac catheterization and angiography results which obtained from the patients’ records were evaluated.

Results
The median age of the patients was 9.5 months (1 month-14 years); 46 (52.3%) patients were female. The most common concomitant congenital heart diseases were ventricular septal defect (23.9%), double outlet right ventricle (14.8%) and tetralogy of Fallot (11.4%), respectively. When the patients according to their heart disease were compared with the whole group; PLSVC frequency was significantly higher in patients with double outlet right ventricle (p <0.001), tetralogy of Fallot (p = 0.04), patent ductus arteriosus (p = 0.01) and atrial septal defect (p = 0.03). PLSVC were opening into the coronary sinus in all cases (100%). Eighty-three (94.3%) of 88 patients with PLSVC were found to have right SVC, and 5 (5.7%) were found to have agenesis of the right SVC. Twenty-seven (32.5%) of 83 patients with double SVC had intercaval connection. In all cases (100%) left SVC was observed to open into the coronary sinus. Right aortic arch association was seen in 14 (15.9%) patients. Eighty-four (95.4%) of the patients were evaluated by echocardiography prior to catheter angiography.

Conclusion
Gaining awareness about the congenital heart diseases that frequently associates with PLSVC and a careful echocardiographic examination can simplify the diagnosis of PLSVC. The early diagnosis is important to prevent the complications during catheterization and surgery.