Tricuspid stenosis (TS) is a rare form of congenital heart disease; it is a cyanotic heart disease because of decreased pulmonary flow. The valve dysfunction can result from primary or secondary causes. Secondary TS is caused by rheumatic heart disease, congenital abnormalities, carcinoid disease, pacemaker catheters, and metabolic or enzymatic abnormalities such as Fabry’s or Whipple’s disease.1,2 In this case report, we describe, for the first time, early prenatal diagnosis of tricuspid stenosis at 15 weeks’ gestational age.

CASE REPORT
In Israel, early vaginal sonography for the detection of fetal structural malformations is a common practice, and the majority of pregnant women undergo this scan between 14 and 16 weeks of gestation. A 28 year old healthy primigravida presented at 15 weeks of a spontaneous pregnancy for early transvaginal ultrasound screening. The patient has prophylactically taken folic acid and denied exposure to any teratogenic drugs. Her family history was unremarkable.

The ultrasound examination showed a normal sized right atrium, small right ventricle, narrow pulmonary artery, and diminished flow through the tricuspid valve. The diagnosis was confirmed by postabortal examination. In this case report we describe, for the first time, early prenatal diagnosis of tricuspid stenosis at 15 weeks’ gestational age.

Key words: cardiac malformations, fetal anomalies, prenatal diagnosis, tricuspid stenosis

Although the prenatal diagnosis of heart anomalies has improved dramatically during the last 2 decades, the diagnosis of heart anomalies remains a challenge. Tricuspid stenosis has not been previously diagnosed in the early second trimester. The sonographic signs of early detection of tricuspid stenosis at 15 weeks of gestation included normal sized right atrium, small right ventricle, narrow pulmonary artery, and diminished flow through the tricuspid valve. The diagnosis was confirmed by postabortal examination. In this case report we describe, for the first time, early prenatal diagnosis of tricuspid stenosis at 15 weeks’ gestational age.

Key words: cardiac malformations, fetal anomalies, prenatal diagnosis, tricuspid stenosis

FIGURE 1
Stenotic tricuspid valve

LA, left atrium; LV, left ventricle; RV, right ventricle.

flow passed through the tricuspid valve (Figure 3 and Video 3). An ultrasound examination at 18 gestational weeks confirmed the same structural defects and revealed mild pericardial effusion. The patient opted to terminate the pregnancy at 18 weeks of gestation. The postabortal examination confirmed our diagnosis of tricuspid stenosis (Figure 4). There was a normal left-sided spleen and the possible diagnosis of heterotaxy was excluded.

**COMMENT**

Several studies have described the prenatal diagnosis of tricuspid valve disease, which includes the following: benign tricuspid regurgitation, tricuspid atresia, Ebstein’s anomaly, tricuspid dysplasia, and unguarded tricuspid orifice. Tricuspid atresia can serve as the main differential diagnosis of TS.

Tricuspid atresia (TA) is a rare form of congenital heart disease best described as the absence of, or rarely, an imperforated right atrioventricular connection such that there is no communication between the right atrium and right ventricle and a white echogenic membrane divides between right atrioventricular junctions. Usually in such cases the right ventricle is severely hypoplastic.

Unlike tricuspid atresia, the key finding for the prenatal diagnosis of TS is sonographic visualization of a tight channel between the right atrium and a moderately hypoplastic right ventricle. The valvular area in TS is not hyperechogenic because it usually appears in TA.

Several reports have described the prenatal diagnosis of TA at advanced gestational age, but none addressed the early prenatal diagnosis of TS. It may be hypothesized that advanced gestational TA may present as early gestational TS. However, we have diagnosed 5 additional cases of TA as early as 15 weeks’ gestation (unpublished). Thus, the early gestation detection of TA significantly weakens the hypothesis that advanced gestational TA may present as early gestational TS. Therefore, we believe that TS should be considered a different entity, independent of TA. To the best of our knowledge, this is the first report of early prenatal diagnosis of TS.

**REFERENCES**


