

# Vegetation in Pulmonary Artery in A Child with Patent Ductus Arteriosus

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## ÖZET

### AÇIK DUKTUS ARTERİOZUS'LU BİR ÇOCUKTA PULMONER ARTERDE VEJETASYON

*Yazarlar 14 yaşında bir çocukta, infeksiyöz endarterit gelişimi sonucu pulmoner arterde vejetasyonla komplike olan bir patent duktus arteriyozus (PDA) vakası sunmaktadır. Bu şekilde ekokardiyografi ile gösterilmiş literatürde sadece bir kaç vejetasyon olgusu mevcuttur. PDA'li hastalarda duktus genişliğinden bağımsız olarak infeksiyöz endarterit riski vardır.*

**Anahtar kelimeler:** Açık duktus arteriyozus, infeksiyöz endokardit

The risk of infective endocarditis has been ceased by the development of successful ligation of the ductus in patients with patent ductus arteriosus (PDA). There are only a few cases in which the vegetation has been shown by either in postmortem studies or in echocardiographic evaluation (1).

## REPORT of CASE

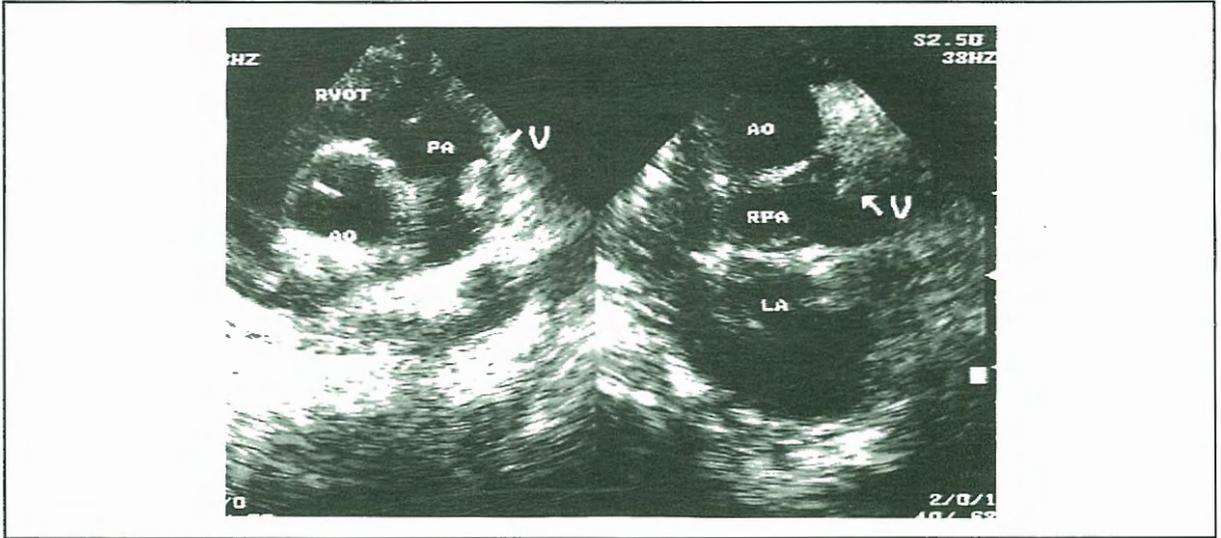
A 14-year-old child was admitted to the hospital by the complaints of exertional dyspnea for 2 years, palpitation, coughing and fever lasting for 2 weeks. On physical examination blood pressure was 110/70 mmHg, pulses 115/min, temperature 37.5 C and the conjunctivas were pale. The continuous murmur was heard below the left clavicle. Electrocardiogram and chest X-ray examination were normal. The white blood cell count, was 7500/mm<sup>3</sup>; hemoglobin, 9.3 gr/dL; hematocrit, 27%; erythrocyte sedimentation rate, 50 mm/hour. Antistreptolysin O titer was 350 Todd units. The echocardiographic examination showed patent ductus arteriosus (PDA) and vegetation in the pulmonary artery. In parasternal short axis view, just proximal to the bifurcation of the pulmonary artery, at the opening side of the patent ductus arteriosus, 21-11 mm in size and highly mobile vegetation was demonstrated (Figure 1). The diameters of the left ventricle, and left atrium was normal. Before starting the empirical antibiotic (crystalline penicillin

and gentamicin) treatment, three blood specimen were cultured. Streptococcus viridans was isolated from the child's blood culture and sensitive to the both antibiotic (penicillin and gentamicin). On the third day of antibiotic treatment, the subfebrile fever of the child decreased to the normal. One week later, erythrocyte sedimentation rate was 15mm/hour and control blood cultures detected no microorganism. In echocardiographic evaluation, a clear decrease in vegetation size (11-5 mm) was demonstrated. At the end of the month, there was no detectable vegetation by echocardiography.

## DISCUSSION

During the pre-antibiotic era, infective endarteritis was a fatal complication of patent ductus arteriosus and the common cause of death in patients with PDA. The annual risk of infective endarteritis in patients with PDA at that time was estimated to be 0.45% (2). With the introduction of antibiotics and surgical treatment, there has been a significant reduction in the number of cases of PDA complicated by infective endarteritis, and the risk of death has been considerably reduced (1-3). The more sensitive diagnostic methods available today, in particular colour Doppler echocardiography, enable haemodynamically insignificant and even silent PDA to be identified (4). Two dimensional echocardiographic detection of vegetation within the pulmonary artery is extremely rare, and only a few cases have been reported in literature (5-7). In patient with infective endarteritis associated with a patent ductus arteriosus, the infective vegetation is usually seen at the pulmonary end of the ductus (8). There is a controversy about the routine closure of a PDA for the sole purpose of eliminating the risk of infective endarteritis. Thilen U et.al (9) has suggested that routine closure of PDA for eliminating infective endarteritis is unnecessary. Documentation of endarteritis with a clinically silent PDA implies that the risk of endarteritis with a PDA may not be dependent on size. Balzer et.al (7) has also reported a

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**Figure 1.** Parasternal short axis and suprasternal short axis view of vegetation in pulmonary in a child with patent ductus arteriosus. RVOT=Right ventricular outflow tract, Ao = Aorta, PA = pulmonary artery, V = Vegetation, RPA = Right pulmonary artery, LA, left atrium.

vegetation in pulmonary artery due to silent patent ductus arteriosus.

### Conclusion

The interest of this case lies in the association of a PDA and a vegetation in the pulmonary artery. The risk of infective endarteritis is still prevalent even in a small ductus.

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