

# Patent Ductus Arteriosus with Infective Vegetations in Grandmultipara

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## ABSTRACT

Patent ductus arteriosus (PDA) usually presents during childhood, less frequently in adolescence, and rarely in late adulthood. The usual mode of presentation is left ventricular failure and respiratory symptoms. Here is a case of a female with patent ductus arteriosus, who was apparently in quite good state of health and gave birth to six offsprings without herself having any problem. At the age of 40, she presented with infected vegetations at the site of PDA, causing fever and clinical signs of PDA, confirmed by echocardiography.

**Key Words:** Patent ductus arteriosus (PDA). Infective endocarditis. Infective endarteritis (IE). Vegetations. Main pulmonary artery (MPA).

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## INTRODUCTION

The ductus arteriosus, an essential fetal structure normally closes spontaneously soon after birth. Remaining patent, it usually presents at 3-week to 6-week old infants, or less frequently in adolescence. The patient might have cardiorespiratory symptoms,<sup>1</sup> or may remain symptomless in childhood, with disease incidentally being found on routine auscultation or echocardiogram for other purposes and; hence, the discovery is delayed until adolescence. Discovery in late adulthood is very rare.<sup>2</sup>

The case presented and discussed herein is a rare persistence of PDA into adulthood and still rarer is presentation with infected vegetations, without having any other complication or even full blown symptoms of the disease. Very few reports of cases like this are found in literature.

## CASE REPORT

Here is a case of a 40-year woman, resident of Awaran, Balochistan, who was admitted to Lyari General Hospital, Karachi. She presented to Outpatient Department with fever for four months, which was continuous and subsided for 3-4 hours only by taking antipyretics, with no other aggravating or relieving factors. Fever was low grade in intensity initially, increasing at night and then transformed to persistently high grade, after few days. It was not associated with rigors.

There were no associated symptoms pointing to the cause of fever. In addition, there wasn't any history of

dyspnea, chest pain, palpitation, night sweats or weight loss when asked later specifically for the diagnosed disease. The only complaint besides fever was vague weakness which she described as fatigability during carrying out her chores.

Looking into her past, she did not have any cyanotic spell in her childhood, too. Having no comorbid, her past medical and surgical history was unremarkable. No further substantial information was obtained from the personal and menstrual history of the patient, except her remarkable obstetric history fitting in the background of her disease diagnosed later on. She gave birth to six children, among whom five were live births and one was an intrauterine death. Her eldest child was 17 years of age and the youngest one was aged 3 months. All were normal vaginal deliveries at home. Patient was a lactating mother at the time she presented to hospital. She belonged to low income class. She was not addicted to any drug and her appetite and sleep were normal. Nothing remarkable was found in her family history.

On examination, she was a lady of normal height and built, lying comfortably on bed. Her temperature was 101°F. Blood pressure was 140/60 mmHg, the pulse pressure was 80 mmHg. Her pulse rate was normal, rhythmic, bounding, and had good volume and tension. JVP was not raised and carotid pulsations were prominent. Anemia, cyanosis, jaundice, edema were absent, whereas lymph nodes were not palpable.

On precordial examination, feeble pulsations were visible in suprasternal and apical area. Apex beat was heaving and displaced laterally. Right ventricular heave was also present. Pulmonary artery was not palpable while there was thrill over the upper left parasternal area. On auscultating, mitral area, there were S1 and S2 with normal intensity and a systolic murmur of grade III, blowing in character and radiating to axilla. There was no change in its intensity with respiration. There were no

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snaps or clicks. At left upper parasternal border, S1 and S2 were not audible. Instead, there was a harsh murmur of grade IV with no change in intensity with respiration, but accentuation on lying down. It was best heard at left second intercostal space and was radiating to back. It was systolic with extension into diastole.

Rest of the chest had normal vesicular breathing, with no basal crepitations. Abdomen was not distended, was soft and non-tender. Spleen and liver were not palpable. There were no signs of IE or of peripheral embolization.

Complete blood counts showed Hb of 11.3 gm%, TLC of 8400/mm<sup>3</sup>, and platelets at 273,000/mm<sup>3</sup>. Ultrasound abdomen revealed splenomegaly of 12.8 cm, rest of scan was unremarkable. Two samples of blood culture sent from separate arms gave no bacterial growth. Special blood cultures for atypical organisms were not requested. Urinalysis revealed microscopic haematuria. Chest X-ray was normal. ECG showed normal sinus rhythm.

Echocardiography revealed small multiple freely mobile echogenic masses (vegetations) in main pulmonary artery (MPA) at the site of patent ductus arteriosus (PDA), mildly enlarged left ventricle with normal function, mildly thickened aortic valve with no aortic stenosis. Doppler showed mild mitral and aortic regurgitation, continuous flow of PDA seen in MPA with ghosting. Pressure gradients showed end diastolic velocity of PDA 2.6 m/s. RV/MPA pressure was 25 mmHg. Ejection fraction was 55%.

Inj. benzyl penicillin 3 million units/4 hourly were given in infusion for four weeks with Inj. gentamycin 60 mg IV/ 8 hourly for two weeks and Tab. Acetyl Salicylic Acid 75 mg -1 OD. The patient became afebrile 5 days after starting treatment. Upon discharge, she was referred to the cardiac surgery department at NICVD, but after that she was lost to follow-up.

## DISCUSSION

Although symptoms were absent in this case, but clinical signs pointed to the diagnosis, which was later confirmed by the echocardiography.<sup>3,4</sup> The signs in favour of the diagnosis in this case were bounding pulse, widened pulse pressure, palpable suprasternal pulsations, prominent carotid pulse, laterally displaced apical impulse, left subclavicular thrill and murmur radiating to back with obscured S1 and S2, a second systolic murmur at mitral area with audible S1 and S2. The interpretation of wide pulse pressure in this case, is that, the ductus shunt size is either moderate or large. Considering all these signs and then echocardiographic findings, the uniqueness in this case is the absence of symptoms, even with moderate shunt size. Secondly, the symptoms of PDA persistently remained absent even with complication. This distinctive feature is highlighted while leafing through her history thoroughly.

Giving birth to six children, passing 40 years with a low socioeconomic status, without having any complaint, presenting in an apparently quite good health and lactating her baby quite comfortably, are the features picked from her history possibly because of home deliveries without antenatal care.

Six cases of PDA presenting above 30 years, are reported earlier in 3 females and males each. There were vegetations on the patent ductus in four cases and on valves in two cases, three presented with fever, two with dyspnea; (one of them also had aortic stenosis) and one case presented as hemolytic anemia.<sup>5,6</sup> Regarding infective arteritis as entity, this case is unique in being a rare complication of PDA, especially in otherwise asymptomatic patient.<sup>7</sup> She also had the less frequent right side-related infective endocarditis, and not the left sided, with a rarer cause, i.e. PDA rather than intravenous drug abuse or valvular disease and having isolated pulmonic valve involvement.<sup>8</sup>

IE should remain in the differential diagnosis of adults presenting with fever after more common causes have been excluded. A physician should bear in mind that the risk of endarteritis with a PDA may not be dependent on size of ductus, or duration or severity of symptoms. Rationale for surgery for such asymptomatic, undebilitating and uncomplicated cases should be thoroughly analysed. This case also provides a thought-provoking lesson for healthcare infrastructure designers on collective level. The patient could have developed other complications as PDA sequelae.<sup>9</sup> This case points to lack of access to safe hospital deliveries, lack of diagnosis during routine antenatal checkup, and delay in prompt diagnosis. The complexity of these patients require a multidisciplinary approach.<sup>10</sup> There should be diagnostic facilities and tertiary setups in all areas, be it a rural or an urban area, regardless of socioeconomic strata.

The internists and/or cardiologists should be consulted for complicated obstetric cases and the obstetricians should be vigilant enough to diagnose and refer such cases. Midwifery training, especially for history and physical examination, and then its certification, is also recommended here. The midwives should be trained to pick at least high pulse pressures and refer such cases, along with cases of unexplained fevers, to the specialists.

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