



## Patent Ductus Arteriosus (PDA) in Geriatrics: A Case Report of a 74-Year-Old Patient in the Geriatrics Department of the Center Hospital National University of Fann in Dakar (Senegal)

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### Abstract

**Background/Objectives:** Patent ductus arteriosus is a congenital heart disease most often diagnosed in perinatal period. We report a case of late discovery at 70 years old.

**Observation:** A 74-year-old patient was received for follow-up of comorbidities. The physical examination revealed an intermittent auscultatory arrhythmia and continuous left subclavicular murmur. The electrocardiogram reports monomorphic ventricular extrasystoles. Cardiac Doppler ultrasound shows patent ductus arteriosus with a gradient of 30mmhg. Therapeutic abstention and monitoring were the management recommendations.

**Conclusion:** Persistent ductus arteriosus is a frequent finding in paediatric cardiology. This case highlights the importance of a systematic cardio examination at birth for early detection and management.

**Keywords:** Patent Ductus Arteriosus (PDA); Menopause; High Blood Pressure

### Introduction

Congenital heart defects affect 7 to 8 children per 1,000 births [1]. Among them, Patent ductus arteriosus (PDA) occupies an important place. The ductus arteriosus is a canal located between the aorta and the pulmonary artery, creating a shunt in the pulmonary circulation from the eighth week of amenorrhoea. It becomes obliterated after birth. PAD is a congenital malformation consisting of the abnormal persistence after birth of the patency of the ductus arteriosus. PDA produces a left-to-right shunt, the size of which depends on the calibre of the duct and pulmonary arterial resistance. This condition is usually diagnosed early in childhood. To our knowledge, no case of PDA discovered so late has been documented in the literature. We report a case diagnosed at the age of 74.

### Observation

Mrs ND, is a 74-year-old person, at high risk of cardiovascular disease in terms of age, sex, sedentary lifestyle, severe android obesity (BMI = 35), menopause, high blood pressure and mellitus diabete. She also has bilateral gonarthrosis. Mrs ND was admitted to the geriatric unit for the medical follow-up of her comorbidities (arterial hypertension gonarthrosis diabetes).

The anamnesis reported as complaints a mechanical gonalgia with significant reduction of the perimeter of walk and intermittent palpitations.

The physical examination revealed a general state 2 of WHO, a stable haemodynamic state, with a blood pressure of 130/70 mm

Hg, a heart rate of 87 beats per minute, a respiratory rate of 18 cycles per minute with a peripheral saturation of 96% in ambient air, a Quetelet index of 30.85 kg/m<sup>2</sup>, an abdominal circumference of 110 cm, an intermittent auscultatory arrhythmia, a continuous breath under the left clavicle and pain at the pressure of the internal and external joint spaces of the right and left knees.

The multidimensional geriatric assessment revealed: frailty (Fried score =03) and reduced functional autonomy for certain activities of daily life (Activities DL = 4.5/6); Mini Nutritional Assessment = 18.5; Instrumental Activities Daily Living = 4/4; Charlson comorbidity index = 4.

The superficial electrocardiogram showed sinus tachycardia with monomorphic extra ventricles.



Figure 1: Superficial electrocardiogram.

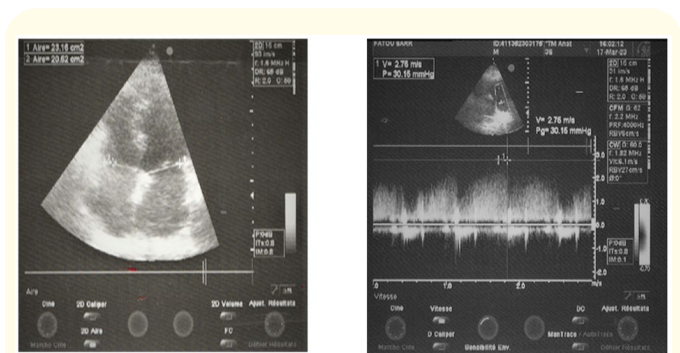


Figure 2: Transthoracic cardiac Doppler.

Transthoracic cardiac Doppler ultrasound showed persistence of the ductus arteriosus with a gradient of 30 mm hg.

Therapeutic abstention and monitoring were the recommendations for medical management.

## Discussion

PCA is a frequent condition in paediatric practice, especially in premature babies. A meta-analysis carried out in Europe, Africa, Asia, Oceania and America ranked patent ductus arteriosus among the 3 most frequent subtypes of congenital heart disease, after ventricular septal defects 2.62 (95% CI: 2.59 to 2.65) and interatrial septal defects 1.64 (95% CI: 1.61 to 1.67). Its frequency was 0.87 (95% CI: 0.83 to 0.91) [2]. In Senegal, Ba Ngouala, *et al.* reported a prevalence of 7.3% among congenital heart diseases found at the Louga Regional Hospital [6]. Mbaye, *et al.* reported a 10% prevalence of PCA at Grand-Yoff General Hospital [3]. The mean age at diagnosis was respectively 8.6 and 19.8 years. The persistence of the ductus arteriosus is a frequent condition with premature babies (70% of newborns with a gestational age of less than 28 weeks). These haemodynamic disturbances are associated with an increased incidence of neurological, respiratory and digestive complications of prematurity, as well as with excess mortality [4]. It should be noted that it is impossible to diagnose persistent ductus arteriosus in antenatal conditions. In our context, congenital heart disease is often diagnosed late because of low access to care [1]. With regard to our patient, the delay in diagnosis could be related to the small size of the PCA, thus, making it asymptomatic.

Of the therapeutic strategies tested over the last 40 years, based on the data in the literature, the trend in the treatment of SCP is towards personalised management [4]. Adult congenital heart disease (CHD), commonly known as “Grown-up congenital heart disease” (GUCH disease), includes not only malformations treated in childhood that decompensate secondarily, but also heart diseases that are asymptomatic at birth and become symptomatic late in life. This is an expanding population, representing a very heterogeneous group in terms of its diversity, complexity and severity, and which poses a real problem of care management in developing countries [3]. In addition to their survival, support for these patients with chronic disease and their families is now a central concern for paediatric cardiologists, congenital

cardiologists, surgeons and geriatricians. Multidisciplinary teams are now essential for the personalised management of congenital heart disease in the elderly. Congenital heart disease exposes patients to the risk of endocarditis, malnutrition (the increase in energy needs induced by the haemodynamic state cannot be compensated for by intake that is often inadequate (tiredness, anorexia), or a lack of energy. These include reduced absorption (gastro-oesophageal reflux, low splanchnic flow, etc.), anomalies associated with neurodevelopment (their incidence increases with the complexity of the heart disease), behavioural disorders and social integration (a recent meta-analysis found behavioural disorders in 25% of children and adolescents with congenital heart disease). Difficulties in social interaction are also among the anomalies described. These disorders seem to increase with age [5]. PCA has been associated with numerous adverse events without established causality causal links having been established, including prolonged respiratory support, pulmonary haemorrhage, chronic pneumonia and necrotising enterocolitis [7]. In our patient, one of the major risks is endocarditis, with regard to the patient's comorbidities and background.

## Conclusion

Congenital heart disease is a rare condition in geriatric practice in our context. On the eve of the demographic and epidemiological transitions that humanity is experiencing, "Grown-up congenital heart disease" deserves particular attention in order to ensure successful cardiac ageing. Congenital heart defects are rare in geriatric practice in our context. With the demographic and epidemiological transitions that humanity is experiencing, "Grown-up congenital heart disease" deserves particular attention for successful aging heart.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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