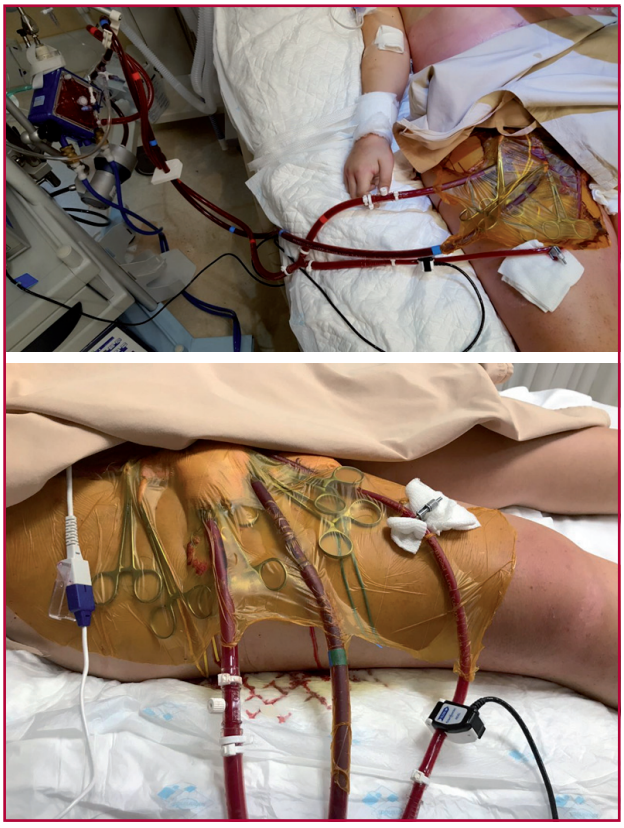

Fig. 2. ECMO machine connected to the patient.

fibrillation, and ECG alterations (widening and deformation of QRS and prolonged QT interval). (3)

Intoxication due to tricyclic antidepressants is a severe entity. Resuscitation should be rapid, with gastric lavage and serial activated charcoal; plasmapheresis on hemodialysis is recommended within the first hours, and ECMO should be considered in intoxicated patients experiencing cardiac arrest or severe shock.

ECMO is an ideal support in intoxication due to tricyclic antidepressants, because a short-term assistance provides hemodynamic and respiratory support until intoxication is overcome and inotropic agents are discontinued. (4)

Tricyclic antidepressants are used to treat a wide spectrum of conditions. The pharmacological group of antidepressants is the second most common cause of intoxication, and within this group, tricyclic antidepressants produce greater morbidity and mortality secondary to significant cardiovascular and neurological toxicity. (5) It is very important to keep in mind that, in case of tricycle antidepressant intoxication, referral to a center with ECMO availability should be considered. (6)

Conflicts of interest

None declared.

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Neonatal Aortic Coarctation

Coarctation of the aorta (CoA) refers to a narrowing of the artery that causes obstruction of blood flow. It is typically located at the insertion of the ductus arteriosus at the origin of the left subclavian artery. It accounts for 8 to 10% of all congenital heart defects with a reported prevalence of approximately 4 per 10,000 live births and a 2:1 male/female ratio. (1) The precise pathogenesis is unknown, but the two main theories for the development of congenital CoA are the reduction of antegrade intrauterine blood flow from the aortic arch causing its underdevelopment, or the migration or extension of ductal tissue into the wall of the fetal thoracic aorta. Pathological examination shows hypertrophy of the middle layer of the posterior wall of the vessel that protrudes into the interior and reduces the aortic lumen. (2) Clini-

cal manifestations vary according to patient age and severity of the lesion, and may range from asymptomatic patients to patients with acute circulatory shock.

We present the case of a 4-day-old male newborn. The 23-year-old primigravida mother underwent 10 prenatal check-ups and 3 obstetrical ultrasounds with normal results. The neonate was born by Cesarean section due to compromised fetal well-being, at full-term 38.2 weeks of gestation, APGAR: 8-9, and anthropometric measurements according to age. He was referred to the Department of Neonatology due to respiratory distress (Sat O2: 84% with Fi O2: 21%, nasal flaring, respiratory grunting, subcostal retraction and tachypnea (RR: 64 x min.), and hyperbilirubinemia (total bilirubin: 16.5 mg/dl). Physical examination revealed a grade IV/VI systolic murmur focusing at the base of the heart; no organomegaly was palpated, and pulses were positive and symmetrical. Complete blood count with acute phase reactants showed no alterations, and chest teleradiography showed a slight increase in cardiothoracic index. ECG on admission reported a 6.9 mm patent ductus arteriosus (PDA), moderate pulmonary hypertension, and global cardiac dilatation, so pharmacological closure of PDA with oral ibuprofen was indicated for 3 days, with fluid restriction and furosemide.

A cardiovascular control at 72 h reported a 4.4 mm PDA with hemodynamic repercussion, so a second course of oral ibuprofen was started with no positive response. Therefore, upon consultation, the Department of Cardiothoracic Surgery recommended surgical closure. On the 7th day of hospitalization, the ductus was ligated in the operating room with a titanium clip using a right posterolateral approach, without complications. The patient was transferred to the neonatal intensive care unit for 3 days under mechanical ventilation, on antibiotic therapy, and inotropic and nutritional support.

Extubation was then achieved, and the patient was transferred to the Intermediate Care Unit, where he was stable for about 8 hours. Suddenly, the patient presented with cardiovascular and respiratory deterioration (Downes score 8) that required mechanical ventilation with high parameters. Because of the abrupt onset of those symptoms, an ECG was requested, which reported a possible CoA due to pressure gradient of 61 mmHg, diastolic runoff and pulmonary pressure of 37 mmHg (Figure 1 A-C). A chest CT angiography with contrast revealed severe stenosis of the descending aorta after the left subclavian artery, with discrete post-stenosis dilatation of the descending aorta (11 mm), tortuosity and dilatation of the right and left internal mammary arteries, and also of the intercostal arteries (Figure 2 A-C). At 11 days of age, the Department of Cardiothoracic Surgery performed extended coarctectomy and end-to-end anastomosis, without complications.

Extubation was achieved 48 hours after the coarctectomy, with adequate tolerance. Enteral feeding was initiated once the patient was hemodynamically stable, with good weight gain and favorable course, being discharged after 43 days of hospitalization with home O2 therapy, ASA, and enalapril. At 3 months of age, control echocardiography showed normal, competent aorta; no stenosis was observed in the juxtaductal region, and the left ventricle and pulmonary pressure were normal.

In conclusion, this is a case where CoA is diagnosed after surgical closure of PDA, which could not be visualized in the first controls due to the large size of the ductus, causing sudden decompensation of the neonate with several criteria (critical CoA, coarctation gradient >20 mmHg, and radiological evidence of significant collateral circulation) (3)

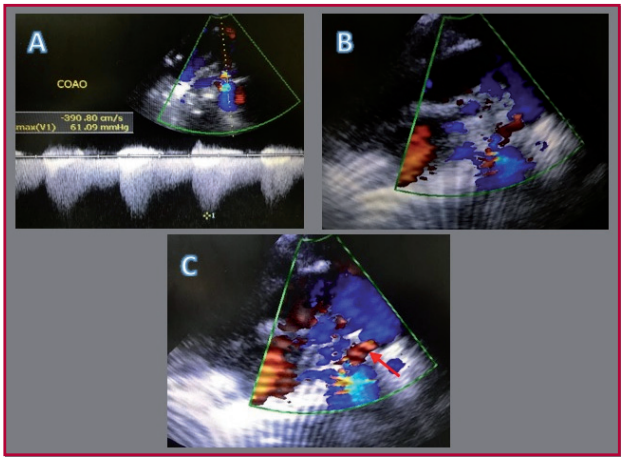

Fig. 1. A. Pressure gradient of 61 mmHg at the coarctation site (severe) and "diastolic runoff". **B.** Aortic arch (blue) and coarctation segment (red) can be observed. **C.** Coarctation at the juxtaductal region (*red arrow*).

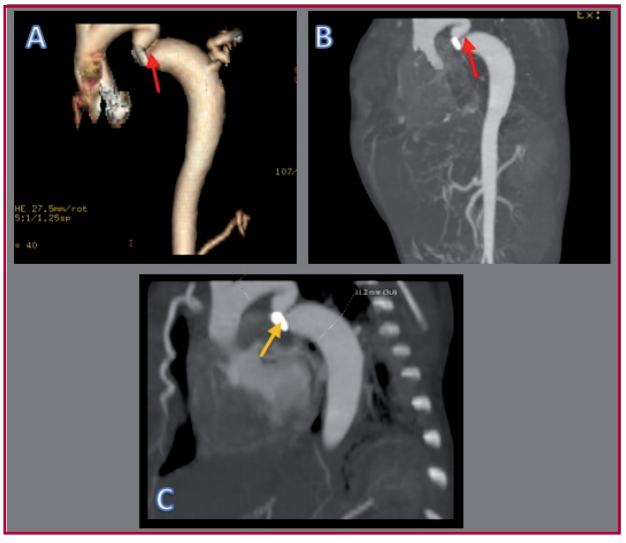

Fig. 1. A & B. Chest CT angiography showing the aortic coarctation site (*red arrows*). C. Titanium clip adjacent to the coarctation site (*yellow arrow*).

for urgent intervention according to the American Heart Association and the American College of Cardiology. Coarctectomy with end-to-end anastomosis has excellent results, and the incidence of late re-interventions is low; however, recoarctation should be considered as a potential long-term complication. (4) Proper management of systemic hypertension is an important aspect to improve survival rate. (5) In our patient, the ACEI was stopped at 3 months of age, with controls of blood pressure within the percentiles for his age. The estimated 10-year survival after repair is >90%, and mortality rate is <1% – which is influenced by age, type of surgery, and associated comorbidities. (6) A detailed physical examination together with fetal echocardiography should be performed, as this will allow early detection and timely corrective management of CoA, thus reducing cardiovascular complications in childhood and adulthood.

Conflicts of interest

None declared.

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Gonococcal Endocarditis: A Rare Complication of an Emerging Disease

Gonorrhea is a sexually transmitted infection (STI) caused by Neisseria gonorrhoeae, a fastidious growing Gram-negative diplococcus. It is manifested with urethritis or cervicitis, and its incidence is estimated at 600,000 cases annually in the USA. (1) Disseminated infection occurs in 1–3 % of all gonococcal infections, and it may manifest as polyarthritis, tenosynovitis, septic arthritis, and endocarditis. Endocarditis develops in 1–2 % of these disseminated infections. In 1933, the first case of gonococcal heart valve disease was reported, and between 1939 and 2014, only 70 cases were reported in the literature worldwide. (2)

We present the case of a 32-year-old male patient, immunocompetent host, heterosexual, with risky sexual behaviors, without previous heart valve disease or other relevant history. The patient presented with a self-limited episode of urethral secretion, and after three weeks, asymmetrical, additive polyarthralgias of large and small joints involving his hands. It was interpreted as acute nonspecific tenosynovitis and was therefore treated with corticoids and NSAIDs. After about two weeks, the patient progressed to persistent fever syndrome, subungual splinter lesions, and subconjunctival petechiae associated with systolic murmur in a mitral focus of 3/6 intensity. No edema or other signs of heart failure were present. In view of suspected infective endocarditis, empirical treatment with ampicillin, gentamicin, and ceftriaxone (CTX) was initiated after collecting three blood cultures (BC) by automated method.

Lab test results were the following: WBC 16,220/mm3; ESR 130 mm/1º h; CRP 15 mg/dL and urine sediment revealed microhematuria.

Transthoracic echocardiography (TTE): Heterogeneous tumor on the atrial side of the mitral valve major leaflet with a broad implantation base over the leaflet and high motility towards both the atrium and the ventricle at end diastole. Diameters were 27 mm x 17 mm. It caused moderate mitral regurgitation, considering the antegrade velocity and the jet that contacts with the atrial posterior wall by color Doppler. Systolic function was preserved.

Transesophageal echocardiography (TEE): Tricuspid aortic valve. In the anterior leaflet of the mitral valve, an attached image was visualized with a wide base of implantation and heterogeneous echogenicity of 2.67 cm x 1.47 cm maximum diameter, which prolapsed towards the left ventricle at end diastole. A smaller image, 0.56 cm x 0.77 cm, was also observed in the posterior leaflet. Both findings were consistent with vegetations. Doppler showed two jets of mitral regurgitation (Figure 1).

Three blood culture samples were collected in Bactec Aerobic/F bottles. Seventeen hours later, 3/3 were positive. A Gram stain revealed gram-negative diplococci. Neisseria gonorrhoeae was identified in