Fig. 2

thetic excursion can be detected by 2D, 3D, or M-mode echocardiography. In these cases, an excessive movement of the prosthetic ring is observed, somewhat independent of the movement of the other cardiac structures. (6) Significant paravalvular regurgitation requires intervention, which may be surgical or percutaneous. Traditionally, surgical treatment of paravalvular regurgitation has been the standard practice. However, over the past 20 years, transcatheter closure methods have been developed for paravalvular regurgitation. (4)

We describe the case of a 70-year old woman with history of psoriatic arthritis, recurrent uveitis, and with a mechanical 23 mm CarboMedics aortic prosthesis since 2001 due to severe aortic regurgitation. On admission, the patient presented with clinical signs of chest pain, dyspnea, and slightly increased myocardial necrosis markers, without ECG abnormalities, and was admitted to the Cardiac Intermediate Care Unit with diagnosis of non-ST segment elevation acute coronary syndrome (NSTE-ACS) and heart failure (HF). Cardiac catheterization evidenced aortic prosthetic excursion, suggestive of prosthetic dehiscence (Video 1). Coronary angiography showed acute thrombotic occlusion of the mid segment of the anterior descending coronary artery (Figure 1), which was effectively treated with aspiration thrombectomy, without need for a stent (Figures 2). 2D and 3D TEE confirmed prosthesis dysfunction due to dehiscence along the anterior portion of the ring, causing severe aortic regurgitation (Video 2). The patient underwent emergency aortic valve replacement with a 26 mm St Jude Trifecta Valve prosthesis. The aspect of the inflammatory periprosthetic tissue was remarked during the procedure; however, all the cultures were negative.

This case shows the importance of always bringing into consideration a possible prosthetic dysfunction in prosthetic valve patients, even in cases of uncommon ACS, with echocardiography being the essential diagnostic tool.

Conflicts of interest

None declared.

(See authors' conflicts of interest forms on the web/Supplementary material).

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Videos are available at:

https://youtu.be/cSxXnNrRE40
https://youtu.be/UOsgUzSblCY

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Infective Endocarditis Caused by *Streptococcus suis*

Streptococcus suis infection (S. suis) is an uncommon emerging zoonosis, secondary to being exposed to swine food or swine-related occupations. (1) This pathogen can cause severe systemic infection in humans (2), including meningitis in the first place, followed by sepsis, arthritis, endocarditis, and endophthalmitis. (3) The first human case was reported in Denmark in 1968, and since then, an increasing number of human cases have been reported in Southeast Asia and Northern Europe. Recently, this pathogen has been identified as the first and third agent caus-

ing bacterial meningitis in Vietnam and Hong Kong, respectively. (4)

In Latin America, the first two cases were reported in Argentina in 2005-2008. Currently, Argentina is among the Western countries with the highest number of human cases reported, after the Netherlands, France, and the UK, with a number of cases similar to Poland (Figure 1). However, the European countries began the identification of S. suis in humans more than 15 years before Argentina, so the total number of human cases in our country may have been underestimated. (6)

S. suis natural habitat is the pig's upper respiratory tract, particularly the tonsils and nasal cavities, as well as the genital, and alimentary tracts. (7) It has also been isolated in other animals, like rodents, cats, dogs, deer, and horses, and it is thought to be a commensal in the intestinal flora. Infection in humans is caused through lesions in the skin, oral mucosa, and nasal cavity, or by ingesting contaminated food. Among the 35 known serotypes, serotype 2 is the most pathogenic both for pigs and humans, and the most commonly isolated in humans, with serotype 1, 4, 14, 16 reported in a fewer number of cases. (4)

Patients do not usually have previous conditions at the time of *S. suis* infection, although some predisposing factors such as splenectomy, diabetes mellitus, alcoholism, malignant tumors, and structural heart diseases have been reported.

Misdiagnosing *S. suis* infection is not uncommon, both by conventional biochemical testing and commercial identification systems. Bacteria are often reported as *Streptococcus viridans* in 70% of cases. (5)

According to the information available, penicillin, ceftriaxone, or vancomycin are the drugs used to correctly treat meningitis caused by this pathogen. No clinical data are available regarding the treatment of the infection in places other than the central nervous system. (7)

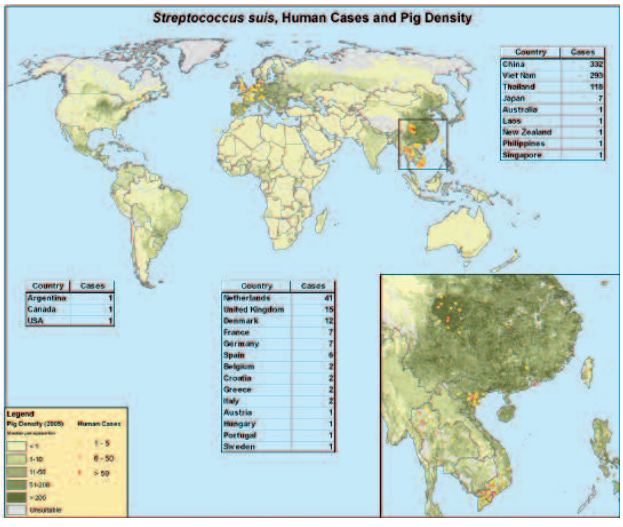

Fig. 1. World map of human *Streptococcus suis* cases with background pig density data. Published with permission from the Infectious Diseases Research Foundation (World Atlas of Infectious Diseases Project). (7)

We report the case of a 42-year old male rural worker dedicated to swine husbandry. He had a history of herniated intervertebral thoracic disc, for which he was being treated with depot corticosteroid 6 months prior to consultation, associated to daily fever episodes of 40 ºC during the previous month. During hospitalization, sinus tachycardia and systo-diastolic murmur of grade 3/6 intensity and maximum auscultation in the aortic area were detected, with no signs of heart failure. Echocardiography targeted mobile vegetation in the aortic valve and sessile vegetation in the anterior mitral leaflet with severe aortic regurgitation and mild mitral regurgitation (Figure 2).

Initially, blood cultures revealed growth of alpha hemolytic, gram-positive cocci in chains. Treatment with penicillin G 3,000,000 units every 4 hours and gentamicin 80 mg/8 hours was started. The Department of Bacteriology decided to send the sample for identification to a specialized laboratory.

Patient progressed with heart failure and no response to medical treatment so an emergency bivalvular mechanical mitral-aortic valve replacement was performed on the 4th day of hospitalization. Immediate postoperative course presented with left facio-brachio-crural hemiparesis. Brain magnetic resonance imaging with SWAN technique showed hypointense focal images of cortical-subcortical location in both cerebral hemispheres, and others in the cerebellar hemispheres associated with microhemorrhages.

The report from a specialized laboratory (*Hospital Malbrán*) on the specimen collected revealed isolation of S. suis, and antibiotic treatment was continued.

During the late postoperative course, the patient had evening fever episodes. Different causes were studied, with no positive results. The condition resolved and the patient was discharged after a 6-week course of intravenous antibiotics.

A case of infective endocarditis was reported with very rare pathogen detection in our setting, *S. suis*. The patient worked in swine husbandry and marketing without any protection against animal handling (gloves, protective goggles, etc.), which increases susceptibility to infection associated to immunosuppression caused by chronic corticosteroid therapy.

The isolation of this pathogen raised a campaign from the Department of Epidemiology of *Hospital Castro Rendón* to detect it at the place where the patient comes from, collecting samples from the upper airway tract of the animals they take care of. In turn, the contact with *Hospital Malbrán* and Dr. Marcelo Gottschalk's laboratory (Canada) to confirm the serotype and determine the sequence type (ST) by multilocus sequence typing (MLST) is still pending.

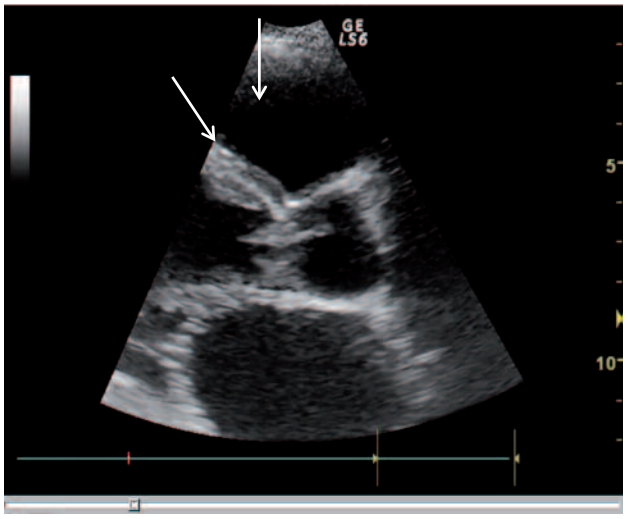

Fig. 2. Transthoracic echocardiography image, zoom of left parasternal axis. The arrows show vegetation in the aortic and mitral valves.

Conflicts of interest

None declared.

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Congenital Fistula Between the Internal Mammary Artery and the Pulmonary Trunk

Congenital internal mammary artery to pulmonary artery fistula is a rare condition, and its diagnosis is exceptional in pediatric patients. (1) The first case of mammary artery to pulmonary artery fistula was published in 1947, (2) and very few cases have been described since. This rare condition can be either congenital (it occurs in 1 out of 50,000 patients with congenital heart disease) or acquired (usually secondary to coronary artery bypass surgery, traumas, inflammation, or neoplasia), (3) and its diagnosis is exceptional in patients with no evidence of disease or triggering factors. (4)

Congenital forms are associated to pulmonary atresia or tetralogy of Fallot among other heart diseases, and to pulmonary sequestration and arteriovenous malformations. The embryonic origin of these connections is not well known, although it is believed that in these cases, systemic-pulmonary fistulas are formed when the main pulmonary arterial system does not develop continuity with the embryonic lung and cannot form a normal pulmonary arterial tree; (4) this is supported by the common embryonic origin of the chest wall and the pulmonary tree. Several authors have suggested that congenital fistulas arise because pulmonary capillary vessels and the aorta, which connect systemic and pulmonary circulation in the fetus, fail to regress. (5)

In general, patients with congenital fistulas but no other associated anomalies are asymptomatic. It is diagnosed in a study to detect heart murmur, although its clinical presentation depends partly on the functional repercussion of the fistula, which will be proportional to the size of the implicated vessels, and where it is located in relation to the heart or drainage site.

With time, fistulas may cause vessel dilation and symptoms such as congestive heart failure, bacterial endocarditis and/or rupture. Treating this condition is controversial and the options are an expectant attitude, percutaneous closure, or surgery. (2)

We describe the case of a 10-year old boy with no relevant medical history, who was referred for heart murmur evaluation. Physical examination showed a continuous heart murmur at the left superior sternal border, with no signs of heart failure. The electrocardiogram showed no repolarization changes or other anomalies. Doppler-echocardiography detected diastolic flow suggestive of fistula at the pulmonary trunk, without coronary artery dilation or anomalies or evidence of the origin of such drainage. No other structural abnormalities or change in the size of heart chambers were targeted. Although the initial suspicion was of coronary artery fistula, the evaluation was completed with a contrast computed tomographic angiography, which revealed an anomalous vessel with a tortuous path at the level of the internal