

## Infective Endocarditis with Initial Presentation of Acute Abdomen

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A 35-year-old patient was seen in an Emergency Department, with six hours of pain in the right iliac fossa and fever. The hypothesis diagnosis was acute appendicitis and an exploring laparotomy for appendectomy was carried out. The patient returned to the hospital three days after having been discharged, debilitated, feverish, having alterations in speech, reduction in the level of consciousness and complete hemiparesis to the left. The computed tomography scan of the skull and the liquor puncture were normal. Cerebral magnetic resonance image showed aspects compatible with vertebrobasilar ischemic stroke. Transesophageal echocardiogram showed vegetation of the aortic valve and moderate aortic insufficiency. Blood cultures were positive for *Enterococcus bovis*.

### Case report

A 35-year-old male patient, previously healthy, without antecedent use of drugs, got into the Emergency Department presenting intense abdominal pain in the right iliac fossa, which initiated six hours before, with fever, nausea, inappetence and general physical indisposition, without the presence of cardiologic, respiratory or urinary complaints. In the physical exam, he was conscious, oriented, feverish (38°C), with 110/60 mmHg blood pressure and with cardiac frequency of 116 bpm. The respiratory auscultation was normal. There were not cardiac wheezes in the cardiologic exam. The abdomen was distended, tense, and highly painful in the right iliac fossa, with a positive harsh decompression sign. The blood count demonstrated 14,300 white blood cells, with an increase in the neutrophils number, simple normal urine test and abdomen ultrasonography with no changes. The patient was evaluated by the general surgery team and diagnosis hypothesis of acute appendicitis was done. He received endovenous hydration and symptomatic medications; therefore, he was interned and submitted to an exploring laparotomy.

### Key words

Endocarditis, bacterial; embolism; abdomen acute; abdominal pain.

The anatomopathological study of the cecal appendix disclosed erosions in the mucous, reactive lymphoid hyperplasia and superficial acute inflammatory infiltrate. There were no evidences of abscess in the appendix part analyzed.

The patient received hospital discharge, returning to the emergency department three days later with signs and symptoms of prostration, high fever maintained, dizziness, speech disturbance and decrease in the conscience level. In the neurological exam, he presented somnolence, with multidirectional nystagmus and complete hemiparesis to the left. The liquoric puncture and biochemical analysis were normal. The skull's tomography had a normal result. The magnetic nuclear resonance of the encephalon showed compatible aspects with ischemic stroke vertebrobasilar. The transthoracic echocardiogram was normal and the transesophageal echocardiogram revealed vegetation in the aortic valve with aortic insufficiency of moderate degree in the dopplercardiogram. Blood cultures were positive for the *Enterococcus bovis*. Specific antibioticotherapy was initiated and colonoscopy with biopsy was carried out, which showed adenocarcinoma *in situ*.

The patient evolved with regression of the symptoms, having discharge with left hemiparesis and dyslalia, thus, he was followed for neoplasia treatment.

### Discussion

The infective endocarditis (IE) is many times difficult to be established, once it presents an ample clinical spectrum. The clinical presentation of IE can be acute or subacute and frequently includes cardiac and extracardiac manifestations, with fever as the most common symptom, besides anorexia, weight loss, physical indisposition and nightly perspiration. In 1994, echocardiographic criteria (Duke) were introduced for the IE diagnosis<sup>1</sup>.

The systemic embolic manifestations are complications that require a high degree of diagnosis suspicion, given its direct implication in worsening the patients' prognosis.

The systemic embolism is a frequent complication of the IE observed in approximately 50% of the cases and more frequently evolves the central nervous system, the spleen, kidneys, liver, iliac or mesenteric arteries<sup>2</sup>.

The occurrence of acute abdomen as an embolism initial manifestation of IE is rare, with few cases described in literature<sup>2</sup>. The most predominant abdominal symptoms can confuse the clinical chart, retard the treatment of primary disease and sometimes drive to an explorative laparotomy. As reported in our patient's case, the initial diagnosis was the inflammatory acute abdomen, and

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the anatomopathological finding showed inflammatory changes in the cecal appendix. No splenic alterations in the exploring laparotomy were evidenced.

The most probable hypothesis was embolism for the mesenteric artery and the formation of mycotic aneurysm, after bacteraemia by *Enterococcus bovis* and formation of vegetation in the aortic valve. Mycotic aneurysm by septic embolism for iliac arteries can also be the cause of an abdominal chart in the IE course (although, more frequently, they cause genitourinary and neurological symptoms)<sup>3</sup>. Fever and pain are common aspects of mycotic aneurysms. In patients with the embolic type of mycotic aneurysm, bacterial microembolus is released in circulation and can shelter themselves in the vasorum of normal arterial walls or in atherosclerotic plates<sup>4</sup>. The resulting inflammatory process leads to the necrosis of the arterial wall and eventually to aneurismatic dilation and rupture<sup>5</sup>. The most common sites of extracranial embolism are the mesenteric arteries (22%), the aorta and the femoral artery (21%), the brachial artery (8%) and the common iliac artery (6%)<sup>6</sup>. In a published series, abdominal pain was detected as a clinical presentation in 41.2% of the patients with IE, especially in patients with peripheral embolism<sup>7</sup>. In this same series, the isolation of *Enterococcus* in patients with IE and peripheral embolism was of 17.6%<sup>8</sup>.

The peritoneal irritation signs observed in the patient of the referred case can be explained by the inflammation and accumulation of pus and blood in the abdominal cavity, next to the place of formation of the mycotic aneurysm.

Four case reports of thoracic diseases occurred with initial presentation of acute abdomen, with the patients submitted to laparotomy due to the initial diagnoses hypotheses of acute appendicitis or perforated peptic ulcer<sup>9</sup>. However, the final diagnoses of the four cases were of thoracic diseases, namely: empyema, pulmonary tuberculosis, pulmonary thromboembolism and IE.

Skaria et al also described, in 2004, the case of a 21-year-

old patient with endocarditis of aortic valve prosthesis by *Streptococcus viridans*, who presented initial chart of abdominal pain to admission. The findings in the computed tomography of the abdomen showed multiple splenic infarcts and renal embolism, due to septic embolism. In this case, diaphragmatic irritation by the renal infarcts was the abdominal pain mechanism. A similar case report happened in 1979, with a 40-year-old man diagnosed with pulmonary adenocarcinoma and endocarditis non-bacterial thrombotic, who presented similar evolution to the case referred herein and also with exploring laparotomy<sup>10</sup>.

The isolation by blood culture of *Enterococcus bovis* is not the most common of the pathogens causes of septic embolism in patients with IE, confirming other interest datum of our clinical case. *Streptococcus viridans* is the most frequent pathogen that causes IE. Later, *Staphylococcus aureus*, Gram-negative bacteria and fungus predominate in patients who use endovenous drugs. *Streptococcus* from group B (*S. agalactiae*) is the resident pathogen of the rectum and causes genital infections.

In patients with IE, about 30 to 50% have embolus for the kidneys, 44% for the spleen, 30% for the brain, 60% for the heart and 50 to 60% for the extremities<sup>4</sup>.

#### Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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#### Study Association

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