

## Case Report

# *Eikenella Corrodens* Infective Endocarditis

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The HACEK microorganisms (Haemophilus spp, Actinobacillus actinomycetemcomitans, Cardiobacterium hominis, Eikenella corrodens, and Kingella kingae) account for 3% of the cases of endocarditis. They have the following similar clinical and microbiological properties: are Gram-negative bacilli, more easily isolated in aerobic media; their cultures require prolonged incubation time for growing (mean, 3.3 days); and may be considered part of normal flora of the upper respiratory tract and oropharynx<sup>1,2</sup>. The following characteristics have been identified in endocarditis caused by the HACEK microorganisms: insidious clinical findings<sup>1</sup>; difficult diagnosis due to the fastidious nature of the microorganisms; and negative cultures<sup>3,4</sup>.

The *Eikenella corrodens* endocarditis was first described in 1972<sup>5</sup>. That microorganism continues to be a rare etiological agent.

We report the case of a female patient with native valve, who had *Eikenella corrodens* infective endocarditis.

## Case report

The patient is a 32-year-old female, who sought medical care complaining of daily fever of up to 39° C and loss of appetite for one week.

The patient had been previously diagnosed with rheumatic valve disease, but was not under medical follow-up.

On physical examination, the patient had a regular general condition, was eupneic, and pale (+/4+). Her axillary temperature was 38° C, her heart rate was 90 bpm with water-hammer pulse, and her blood pressure was 120 x 20 mmHg. The lung examination showed no alterations. Her cardiac examination showed a regular heart rhythm, systolic murmur (4+/6+) in the aortic area, irradiating to the left sternal margin and mitral area, and diastolic murmur (3+/6+) in the aortic area. Her dental assessment revealed a poor condition.

Her hemogram was as follows: hemoglobin, 10.4 g/dL; hematocrit, 30%; leukocytes, 7,800; and platelets, 120,000. Her creatinine level was 0.9 mg/dL, and fasting glycemia was 120 mg/dL. The type 1 urine test showed no leukocyturia.

The electrocardiogram showed sinus rhythm, and hypertrophy of the left chambers. Chest radiography showed an enlargement of the cardiac area, and pulmonary fields with no alterations.

The transthoracic echocardiogram showed left ventricular diameter of 5.3 x 2.7 cm, and left atrial diameter of 4.6 cm. In addition, the transesophageal echocardiogram showed an extremely calcified tricuspid aortic valve, with decreased mobility and marked double dysfunction. At the level of the valvar ring, an image was observed, projecting to the coronary sinus, with a rough aspect, but with echogenicity close to that of calcium, which was compatible with chronic vegetation.

No microorganism grew in the first 2 samples of blood culture. We chose to wait for the etiological diagnosis before initiating the antimicrobial treatment.

Two days after admission, a new hemogram revealed 16,100 leukocytes with 90% of neutrophils. New samples were collected for blood culture. As the patient's clinical condition deteriorated, therapy with crystalline penicillin and gentamicin was initiated.

Her general condition improved with the antibiotic therapy, but the fever persisted. Five days after introducing the antibiotics, *Eikenella corrodens* was identified in the 3 pairs of blood culture collected in the aerobic balloon. The treatment was changed to ceftriaxone, 2 g per day. The patient improved. The antibiotic treatment lasted 6 weeks. The patient was discharged from the hospital, and, after 40 days, she was back to her usual activity.

## Discussion

This clinical case allows the analysis of interesting aspects of *Eikenella corrodens* endocarditis, such as diagnosis, rare etiological agent, and response to medicamentous treatment.

The frequent empirical use of antibiotics, even before adequately collecting blood culture, considerably hinders the diagnosis, because the use of antibiotics decreases the sensitivity of the test. In our case, as the blood cultures were correctly collected, the bacterium could be identified. It had a slow growth, characteristic of the E. group. The accurate microbiologic diagnosis is known to be very important for the adequate choice of the antimicrobial agent<sup>6</sup>.

Infections caused by bacteria of the HACEK group should be suspected in patients with history of periodontal disease or recent dental treatment<sup>1,4</sup>.

We identified 19 cases of *Eikenella corrodens* endocarditis in the literature. Due to the increasing production of beta-lactamase by that group of bacteria, third generation cephalosporins are currently recommended<sup>7</sup>.

The lingering clinical evolution of our patient with good response to antibiotic therapy was similar to that of cases reported in the literature.

This case emphasizes the need for the insistent search for the etiologic agent, because precipitate treatment in patients who can wait for the result of the culture may prove to be ineffective.

## References

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