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A Case of Infectious Endocarditis Due to *Gemella haemolysans* Complicated with Encephalopyosis

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Abstract: *Gemella haemolysans* is one of cocci Gram-positive belonging to the family of Streptococaccae. It is considered as commensal of the buccal mucous membrane, respiratory, digestive and genitourinary tractus. It is rarely involved in human pathology. We report a case of infectious endocarditis due to *Gemella haemolysans* complicated with encephalopyosis in a 56-year-old patient without particular risk factor. The identification was done in the phoenix automaton BD and confirmed by the biochemical galleries. The evolution under Teicoplanin and after valvular replacement was favorable.

Keywords: *Gemella haemolysans*; infectious endocarditis; cocci.

INTRODUCTION

Gemella haemolysans is one of cocci Gram-positive aero-anaerobic optional belonging to the family of Streptococcaceae [1, 2], it is considered as a commensal species of the buccal mucous membrane, respiratory, digestive and genitourinary tractus [3, 4]. it puts difficulties of identification in the laboratory because of his fast discoloration in the Gram and of his similarity with the genre Streptococci. It may be complicated by encephalopyosis [5, 6], of bone infection [7], meningoencephalitis [8]. However, the cases of endocardites were most reported [9, 10]. These infections concern as well the child as the adult. We report the case of an infectious endocarditis complicated with encephalopyosis.

CASE REPORT

it concern H.F patient of 56 years old without particular pathological history who consulted for tumefaction of the straight forearm envolving for two months in a context of anetus. An ultrasound doppler method allowed to highlight a false aneurysm of the ulnar artery so an surgical indication was decided. The cheking analysis before the surgy allowed to diagnose an organic renal insufficiency for which the patient benefited from a nephrostomy.

A bacteriological sample realized in the fall of the surgical procedure returned negative. In postoperative recoveries, the patient had installed in a rough way a left central Bell's palsy of type accompanied with a dysarthria. In the clinical examination, the patient had a kept, aware general condition with a score of Glasgow in 15/15, a temperature in 38,5°C, a heart rate in 70 beatings by minutes. The muscle strength at the level of the lower and upper limbs was preserved, tendon reflexes were normal. The cardiac auscultation and above aortic trunks was unremarkable. The patient had no dental anomaly and did not undergo manipulation at this level recently. There was no notion of antibiotic therapy before the consultation. On the biological plan, the rate of C reactive protein (CRP) had passed of 76 mg / l to 142mg / l in 48 hours; The rate of leukocytes was 10 500/dl to 12000 / dl, the hemoglobin at 8,8g / dl and the platelets at 232 000 / dl.

A cerebral Scanner then a RMI realized found hypodense damage in the frontal zone in favour of an encephalopyosis. The transthoracic ultrasound found vegetations on the ventricular hillside of the big bicuspid, mobile valve with a dilated left ventricle and a massive aortic insufficiency.

Giving theese different finding, six bloodculture bottles were sowed, three in bottles BD Bactec anaerobic and three others in bottles BD Bactec aerobic. After 48 hours of incubation in the automaton Bactec 9240 of Becton Dickinson (BD), five bottles on six were indicated positive. The direct examination after centrifugation and Gram staining allowed to observe cocci grouped in the majority in heap with some in diplococcus, the Gram of which was weakly positive. Bottles were repiqued each on agar-agar columbia suplemented by 5 % of blood of sheep and on chocolate-brown agar-agar and incubated in the

sterilizing room under 5 % of CO2. After 48 hours of incubation,it appeared small hemolytic colonies having the same aspect as the direct examination. These colonies were catalase denial, Resistance fighters in the optochine and do not degrade the esculine. The use of the automaton Phoenix 100 BD with galleries 77 had allowed the identification of Gemella haemolysans 99 %. the identification was confirmed by means of the gallery API ® 20 Strep system (BioMerieux).

The antibiogram had been realized at the same time by the method of distribution on chocolate agar according to the recommendations of the committee of the antibiogram of the French society of microbiology. Tree strains were inhibited by benzylpenicillin, aminopenicillins, the vancomycin, the teicoplanin, aminoglycosides, the acid fucidique, third generation cephalosporins and tetracycline. On the other hand, they were resistant in sulpha drugs.

The initial treatment was benzylpenicillin which was secondarily changed by the teicoplanin seen that the patient presented a drug eruption.

The patient benefited from a replacement of the bicuspid aortic valve by a mechanical prosthesis and the closure of a perforing on the bicuspid valve. The evolution was favorable with one apyrexia obtained in 72 hours and a progressive reduction of CRP. The patient was declared outgoing after 6 weeks of hospitalization and kept a sequellaire Bell's palsy.

DISCUSSION

Initially classified in the genre *Neisseria* because of its fast discoloration in the gram, the knowledge of the structure of *Gemella haemolysans* allowed to classify it later among cocci Gram-positive [1, 11]. This genre also includes: *G. Morbillorum*, *G.bergeri*, *G. sanguinis, palaticanis G. and G. cuniculi* [4, 9] .Only *G. haemolysans* and *G. morbillorum* are recognized as being able to be pathogenic in humans. The infection *caused by Gemella heamolysans* arises generally on particular grounds: bad buccodental state, heart disease, immunosuppression, diverse prostheses [6, 7, 9, 12, 13]. However, some cases were reported at patient's without factors of particular risk [5, 14].

In this casereport, the patient had no underlying heart disease and no known risk factor. The clinical examination and in particular the buccodental examination did not allow to find a front door, the patient did not undergo dental manipulation. The endocarditis is the most frequent location(localization) of the infection to *Gemella heamolysans*, cases were reveled by some authors in Europe, in the United States and in Asia [9, 13]. Our case after reviewing the litterature is considered the 21th case of endocarditis to *Gemella haemolysans* documented in the world and the first case in the Maghreb. The endocarditis concerned or the bicuspid valve is the aortic valve [9], in this case of species, it is about an infringement of the bicuspid valve.

The identification of Gemella haemolysans in the case of our patient was remitted in an automaton, then confirmed by the biochemical gallery API ® 20Strep. The sequencing of the ARNr 16S can be of a big contribution in the difficult cases [15]. *Gemella heamolysans* is sensitive in vitro in Benzylpenicillin, in cephalosporins, in glycopeptides and Resistance fighters in the trimethoprime-sulfamethoxazole [16].

Our patient evolved well under teicoplanin with an improvement on the clinical plan and the progressive reduction in the CRP. under the antibiotic therapy, all the cases of endocarditis reported Gemella haemolysans evolved well [13].

CONCLUSION

The infections to *Gemella haemolysans* are relatively rare but probably under diagnosed because of a slow growth and the similarity with the genre Streptococci. We report the first case of endocarditis to haemolysans G. in the Maghreb at a patient without any risk factor. The use of combined several tools of diagnosis in the laboratory will allow the isolation of this germ.

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