Endocarditis Caused by *Capnocytophaga ochracea*

ANNIE Y. BUU-HOI,* SOUAD JOUNDY, AND JACQUES F. ACAR

Centre Hospitalo-Universitaire Broussais, Hôtel-Dieu, Hôpital Broussais, 96 rue Didot, 75674 Paris, France

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*Capnocytophaga ochracea* is a gram-negative, fusiform bacillus which is part of the normal human oral flora. This organism is often isolated from periodontal lesions of patients with periodontitis and is associated with sepsis in granulocytopenic patients. We report here a case of endocarditis caused by *C. ochracea*.

The generic designation *Capnocytophaga* was recently assigned to a group of gram-negative fusiform, gliding, facultatively anaerobic, capnophilic, and dysgonically fermenting bacilli which are part of the normal human oral flora (12). In 1979, Newman et al. (9) and Williams et al. (14) demonstrated the synonymy of *Capnocytophaga* species, *Bacteroides ochraceus*, and Center for Disease Control biogroup DF-1. Recently Kristiansen et al. (J. E. Kristiansen, A. Bremmelgaard, H. E. Busk, O. Heltberg, and W. Frederiksen, 1st Eur. Congr. Clin. Microbiol., Bologna, Italy, abstr. no. 92, 1983) proposed an approach to rapid diagnostic methods for *Capnocytophaga* species. *Capnocytophaga* species are frequently isolated in large numbers from periodontal lesions of patients with localized juvenile periodontitis and from other forms of periodontal disease (8).

More recently, *Capnocytophaga ochracea* was documented as the cause of septicemia in compromised hosts with underlying malignancies complicated by severe granulocytopenia (1, 3, 5–7, 11). In 1982, cases of endocarditis (2) and cervical abscess (10) were reported in patients without any underlying disease.

We report here the case of a young man with endocarditis caused by *C. ochracea* which we treated in March 1981. The patient was a 30-year-old male with a known aortic insufficiency murmur since 1969, who was admitted to the Broussais Hospital in Paris on 12 March 1981 for fever. Every day for 4 months before admission he had had a fever of 38°C without any other sign of infection. During that period he had no dental care or cleaning. In December 1980, the fever persisting, his house physician prescribed 100 mg of minocycline, three times per day for 7 days. The fever was discontinued for approximately 10 days.

In January 1981, the fever reappeared and, simultaneously, dental care was undertaken, but without any antimicrobial prophylaxis. On admission to the hospital, the patient was asthenic and febrile (38°C), his blood pressure was 130/60 mm Hg, and he had a pulse rate of 92/min. There were no peripheral stigmata of endocarditis. There was a diastolic murmur in the aortic area and along the left sternal border, associated with a slight holosystolic murmur. The heart sounds were normal, and there was no sign of congestive heart failure. The patient had an unproductive cough. The results of abdominal, neurological, and musculoskeletal examinations were normal. Hemoglobin was 13.0 g/dl, the leukocyte count was 10,600/μl, serum creatinine was normal (1.0 mg/dl), and the result of a circulating immune complex assay performed by polyethylene glycol precipitation was significantly high (0.190 [normal, <0.100]). A chest X ray showed that the heart size and contour were normal, as were lung fields, suggesting no early ventricular failure and no lung problems. The electrocardiogram showed sinus rhythm and no ST abnormalities, eliminating the possibility of peri-carditis. Two-dimensional echocardiography demonstrated good myocardial function, a major isolated aortic insufficiency, a normal aorta, and no vegetation. From 12 March, the day of admission, through 16 March, 10 blood cultures were performed, with in each case several different broths (Table 1). The first positive blood culture appeared on day 4 and was positive in both Aer Hemocult and Anaer Hemocult broths (Pasteur Institute Production, Paris, France). These broths were slightly turbid, with granules on the cell sediment. Microscopic examination showed a fusiform gram-negative rod which often occurred in aggregates (Fig. 1). The same day, therapy was started with 2 g of ampicillin intravenously every 4 h and 80 mg of gentamicin intramuscularly every 12 h. Antimicrobial susceptibility testing was performed by the disk diffusion method on chocolate agar supplemented with 5% Polivytex (B.D. Mérieux, Lyon, France); this medium was selected because it allowed the fastest and heaviest growth of the strain. Plates were incubated under two different conditions, i.e., anaerobically and in an atmosphere of 10% CO₂. After 48 h of incubation, disk contact growth was observed for aminoglycosides (streptomycin, kanamycin, gentamicin), erythromycin, and rifampin; the strain was considered resistant to these antibiotics. The results were similar in both incubation atmospheres. Metronidazole was tested under anaerobic conditions, and a

* Corresponding author.
large inhibition zone was observed around the disk. Large inhibition zones of growth (diameter, >30 mm) were observed around penicillin G, ampicillin, carbenicillin, cefoxitin, tetracycline, chloramphenicol, and clindamyacin disks under both atmospheres. The strain was considered susceptible to these antibiotics. Although these results are in agreement with those of Forlenza et al. (4) and Sutter et al. (13), our strain was resistant to erythromycin and rifampin.

On the basis of these observations, the gentamicin was discontinued and replaced by 1 g of metronidazole orally twice a day. Two days after this therapeutic regimen (ampicillin plus metronidazole) was started, the patient was afebrile. The same treatment was maintained for 4 weeks. The patient was discharged in good condition; the control echocardiogram remained unchanged, and the circulating im-

mune complex had fallen to normal levels. The heart condition was good, and no valve replacement was planned. However, 3 years later the patient developed a progressive left ventricular failure, and in November 1983 a Starr aortic valve was inserted. Operative findings included no vegetation, no mitral alterations, no myocardial abscess, and no pericardial effusion. Cultures of the aortic valve were negative, and the patient was discharged with no further complications.

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LITERATURE CITED


