A 69-Year-Old Male from the Province of Brabant, the Netherlands, was referred to a tertiary care hospital for a cardiac surgical intervention for severe aortic valve insufficiency due to aortic valve endocarditis. His medical history showed chronic cardiovascular disease, including hypertension and mild claudication of the right leg. Fourteen months prior to admission, the patient received amoxicillin treatment for pneumonia from his general practitioner. Two months prior to admission, he was evaluated for involuntary weight loss but no cause was established. One week before referral, he was admitted to another hospital for progressive nonexertional dyspnea and peripheral edema. A diagnosis of endocarditis was established on the basis of clinical presentation and ultrasonographic findings. The two sets of blood cultures performed at the referring hospital before initiation of penicillin and tobramycin treatment remained negative. After referral, the patient was intubated for respiratory failure and required hemodynamic support. His leukocyte and thrombocyte counts were normal, his C-reactive protein (CRP) level was 48 mg/liter, and he had mild anemia and elevated creatinin and urea levels. Echocardiography confirmed a large vegetation of the aortic valve with severe insufficiency. A myocardial infarction was diagnosed, and a coronary angiogram revealed 2-vessel disease. After blood cultures were collected, the antibiotic treatment was modified to penicillin and cefotaxime. These blood cultures remained negative during a 21-day incubation period. On the third day after referral, the patient developed a fever of 39.4°C as well as severe cardiac dysfunction and forward failure with evidence of visceral hypoxia. Again, two sets of blood cultures were collected, and these cultures were observed to grow *Bacteroides fragilis*. The next day, aortic valve replacement of a destroyed aortic valve and a coronary bypass were performed. Figure 1 shows the result of the Gram stain of the smears from the macroscopically affected tissue of the aortic valve. The diagnosis was established by PCR from the same tissue specimen and a peripheral blood sample as well as by serology.