Streptococcus anginosus Bacteremia: Sutton’s Law

In the August issue of the *Journal of Clinical Microbiology*, Hadid and colleagues reported an interesting case of *Streptococcus anginosus* endocarditis complicated with endophthalmitis (3). The case illustrated the old concept of Sutton’s law with another perspective.

The case reported had a fundal picture suspicious of a fungal infection. Together with the presence of fever and the constellation of symptoms, it led to a probable diagnosis of fungal endocarditis with metastatic spread. In such a case, Sutton’s law will recommend diagnostic tests that are most likely to lead to the diagnosis, by having several blood cultures, an echocardiogram, and a vitreous specimen. However, not only did the vitreous sample yield no growth, the blood culture yielded bacteria instead of yeasts.

The microbiological diagnosis of endophthalmitis usually requires a positive Gram’s stain or culture. However, the diagnostic yields of eye specimens are generally less than satisfactory. Binder et al. reported sensitivities of 33.3% for aqueous tap, 75% for vitreous tap, and 88.8% for vitrectomy specimens in patients with endogenous endophthalmitis (1). Therefore, the successful treatment of this condition many times depends on the correct clinical diagnosis of the causative pathogens and the resultant use of the appropriate empirical antibiotics. On top of this, the clinicians also face an extra challenge: to search for and manage any additional focus of infections commonly associated with endogenous endophthalmitis.

*Streptococcus anginosus* belongs to the “*Streptococcus milleri*” group. Casariego et al. reported that bacteremia caused by this group of organisms was associated with suppurative conditions in 56% and endocarditis in 19% of their patients (2). In our institution, 17 cases of *Streptococcus anginosus* bacteremia can be identified from 2001 to June 2005, among which, 11 patients had abdominal or hepatobiliary diseases (4 had cholangitis, 1 had cholangiocarcinoma, 1 had carcinoma of gallbladder, 1 had carcinoma of colon, 3 had carcinoma of stomach, and 1 had liver abscess) and 2 patients had endocarditis (M. Hui, unpublished data). These findings illustrate that *Streptococcus anginosus* bacteremia should be viewed as a “symptom” in which the primary focus should be sought.

Taking all these together, the case described by Hadid et al. not only demonstrated the importance of diagnostic reasoning but also, when Sutton’s law revealed new or unexpected evidence, the willingness to review and to change the original clinical diagnosis. It will be of interest to the readers if the authors can further comment on the diagnostic protocol of their practice. Is it routine to perform blood cultures for all patients with endogenous endophthalmitis? Moreover, is a vitrectomy specimen the preferred choice over a diagnostic tapping specimen? The former has a higher diagnostic yield, whereas the latter can be more conveniently performed and allow an earlier opportunity to institute empirical intravitreal antibiotics during the same procedure.

REFERENCES


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