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Letter to the Editor

Streptococcus constellatus septicemia complicating endocarditis and liver abscess associated with gastric adenocarcinoma

Dear Editor,

Streptococcus bovis and *Streptococcus sanguis* bacteremia are well known to be associated with colonic malignancy.[1,2] However, the most physicians are unaware of the association between *Streptococcus constellatus* (*S.constellatus*) bacteremia and gastrointestinal malignancy. Herein, we present a case of *S. constellatus* septicemia complicating endocarditis and liver abscess associated with gastric adenocarcinoma.

An 81-year-old female patient had history of hypertension. She was relative well until two days ago, when she visited to emergency department presenting with fever, chills, nausea, and shortness of breath. The laboratory data showed anemia (Hemoglobin: 7.2 g/dL), leukocytosis with left shift (White blood cell: 37,320/ul, Neutrophil: 92.5%, Metamyelocyte: 2.5%, Myelocyte: 1.0%), abnormal liver function (Glutamate oxaloacetic transaminase: 129U/I, glutamate pyruvate transaminase: 120U/I) and abnormal renal function (blood urea nitrogen: 68 mg/dL, creatinine: 2.48 mg/dL). The stool occult blood test showed positive finding.

On admission, the physical examination revealed local tenderness of right upper quadrant of abdomen. Abdominal echogram showed two huge mix-echoic lesions of bilateral lobes of liver, and the hepatic abscess was highly suspected. The empirical antibiotic metronidazole 500 mg intravenously drip (ivd) q6h and flomoxef 1 g ivd q8h were administered. The echo-guide aspiration of liver abscess was done, and 200 ml green-whitish pus-like fluid was aspirated (Fig. 1A). Two sets of blood culture grew *S. constellatus*. The susceptibility test revealed that this organism was all sensitive to ampicillin, cefotaxime, levofloxacin, ceftriaxone, erythromycin, vancomycin, clindamycin and linezolid. The antibiotic regimen was changed to cefotaxime 2 g ivd q6h and ampicillin 2 g ivd q6h according to susceptibility test. Considering infective endocarditis related to gram positive cocci bacteremia and cardiac murmur over apex, the transesophageal echocardiography was performed, and the result showed a 0.65 × 0.89 cm vegetation over anterior mitral leaflet with moderate regurgitation (Fig. 1B). As for suspected gastrointestinal lesion related anemia and occult blood in the stool, the colonoscopy and esophagogastroduodenoscopy were performed, which showed an active ulcer about 7 × 5 cm at anterior wall of the antrum(Fig. 1C). The biopsy was done and the pathology result revealed gastric adenocarcinoma. The computed tomography of abdomen revealed gastric adenocarcinoma with stage of iT3N2M0 (Fig. 1D). During hospitalization, the patient received three times pigtail catheter drainage of the liver abscess. However, septic shock and cardiogenic shock developed 1 week later, and complicated with respiratory failure and metabolic acidosis. The clinical condition had downhill and she was transferred to intensive care unit on the next day. But she expired shortly afterwards.

S.constellatus is a species of *Streptococcus milleri* group (SMG), part of the normal flora in the oral cavity, urogenital region, and intestinal tract.[3] However, it can frequently cause purulent infections in other parts of the body.[4–6] Review of literature, pyogenic liver abscesses caused by *S. constellatus* are rare, but the opportunistic infections can be observed even in healthy patients.[3] In such cases, physicians should consider the risk that the underlying gastric lesions allowing penetration of the SMG bacteria into blood stream complicating endocarditis and liver abscess. Moreover, it is a substantial clinical marker for presence of occult cancer, and this phenomenon being more evident within the first 5 years after a diagnosis of SMG endocarditis.[1,2,6] In our patient, the *S. constellatus* septicemia complicating endocarditis and liver abscess may remind physicians the association of gastrointestinal malignancy.

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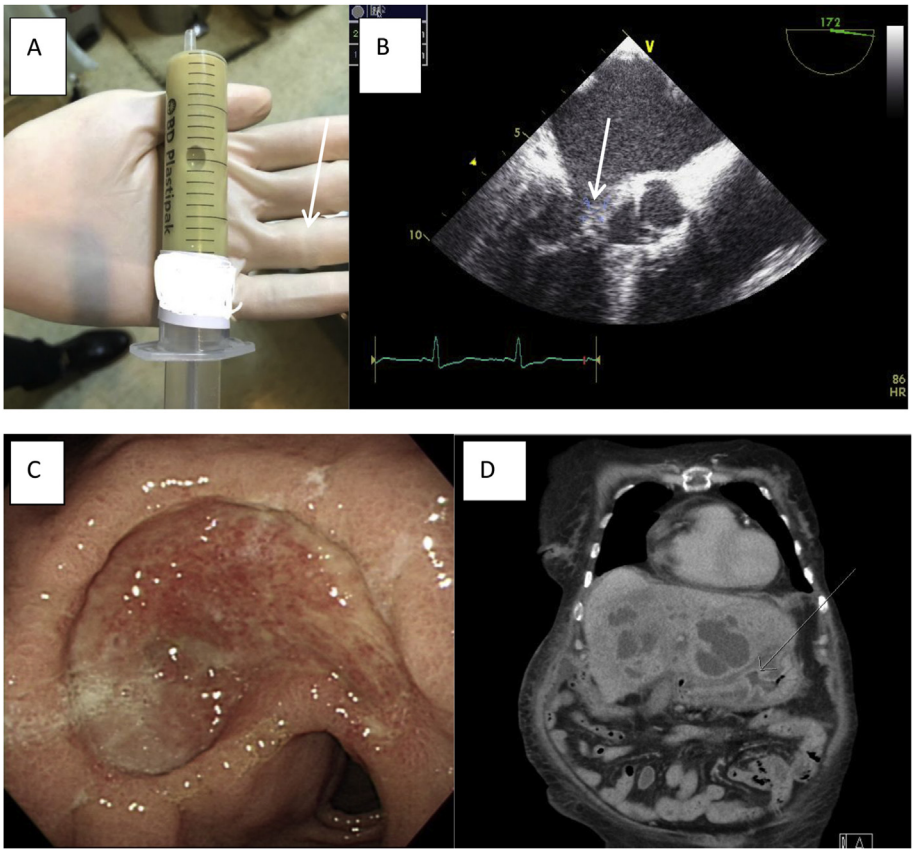

Figure 1. **(A)** Showed about 200 ml pus-like fluid by echo-guided aspiration from the liver abscess. **(B)** Transesophageal echocardiography showed one vegetation (0.65 × 0.89 cm) over anterior mitral valve leaflet with moderate mitral regurgitation(white arrow). **(C)** A big active ulcer about 7 × 5 cm at the antrum of the stomach. **(D)** Contrast-enhanced computed tomography images of the abdomen and pelvis showed multi-loculated hepatic lesions and a tumorous like lesion at the antral part of the stomach (scale bar).

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Yi-Hsuan Wong
Department of Internal Medicine, Wan Fang Medical Center, Taipei Medical University, Taipei, Taiwan

Po-Jui Huang
Division of Gastroenterology, Department of Internal Medicine, Wan Fang Medical Center, Taipei Medical University, Taipei, Taiwan
Graduate Institute of Clinical Medicine, Taipei Medical University, Taipei, Taiwan

Fu-Lun Chen
Wen-Sen Lee*
Division of Infectious Disease, Department of Internal Medicine, Wan Fang Medical Center, Taipei Medical University, Taipei, Taiwan
Department of Internal Medicine, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan

*Corresponding author. Number 111, Section 3, Hsing Long Road, Taipei, 116, Taiwan.
E-mail address: 89425@wanfang.gov.tw (W.-S. Lee)

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