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Original Article: Percutaneous Transhepatic Gallblader Drainage Combined Sodium Bicabonate Infusion: A Novel Conservative Therapy for Critical Patients with Acute Cholelithiasis

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Letter to Editor

As we all well known, ultrasound-guided percutaneous transhepatic gallbladder drainage (PTGD) has been applied for patients with acute cholecystitis when and if they are unsuitable for curative cholecystectomy ,even minimally invasive laparoscopic cholecystectomy at that sever situation (i.e. high-risk elderly patients with critical condition, pregnant women, patients with recent placement of cardiovascular stent, etc.) [1]. although the "safety and efficacy" is promised in clinical practice [2], the therapy for cholecystitis is a temporary and palliative. What we can do to improve its short-term goal and long-term goal as well?

Majority of cholecystitis is powerfully associated with gallstone, which pathogenesis is at least related its microenvironment, including its components and its regional value of PH [3,4]. Therefore, we designed a small scale of prospective clinical trial, which had obtained informed consent from patients and approval from the ethic committee of our institution. In early 3002, we occasionally found PH could regular transparency of digestive juices collected from a patient with duodenum fistula, if we added optimal amount of 5% sodium bicarbonate solution into collected digestive juices (including gastric juice, bile, and intestinal juice), the turbid mixed juices would be turned clear and transparent gradually, the PH test paper revealed the value of PH at that moment was weak base (nearly 7.0). The findings was published in a Chinese version journal (Clinical Surgery) [5]. Other study also found the fact that PH could regular solidity of gallstone [4]. Based on this evidence, we conducted a perspective study for patients with PTGD last year.

Usually, after performing PTGD, we immediately conducted infusion of 5 milliliter 5% sodium bicarbonate solution (3 times per day), total 7 patients received the trial for a week. The preliminary results confirmed the weak base infusion was safe and well-tolerated. The value of PH was nearly 7.0 by PH test paper. We found that the drained bile were more likely turn transparent and clear. As a result, the patients seemed to be benefited from the miracle medicine. In addition, the infection tended to be under control. The possible cause may be related to ease neck of gallbladder through enhancement of gallstone solidity. On review, at least half a year follow-up after patients' discharge from hospital, all patients recovered uneventfully without recurrent cholecystitis.

In our opinion, if patients receive PTGD, infusion of sodium bicarbonate is recommended as a beneficial regulator to relieve high-tension cholecystitis. It also provides a good preparation for later laparoscopic cholecystectomy. Regarding this interesting findings, we will plan to conduct a double-blinded, randomized clinical trials to further confirm its efficacy in 2018.

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