

Computed tomography prediction of pancreatic extracorporeal shock wave lithotripsy outcomes could be improved

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To the Editor:

We read with great interest the paper of Liu et al., Noncontrast computed tomography factors predictive of extracorporeal shock wave lithotripsy outcomes in patients with pancreatic duct stones [1]. They found that noncontrast computed tomography (CT) parameters could predict extracorporeal shock wave lithotripsy (ESWL) outcomes in patients with pancreatic duct stones. However, we have some different views about this study.

Pancreatic ESWL is a minimally invasive, effective, and safe therapy for the management of pancreatic stones. The target population for ESWL is patients with painful chronic pancreatitis and radiopaque stones of ≥ 5 mm in diameter. For each individual patient, the ESWL session is repeated until the stone was fragmented to ≤ 2 –3 mm in diameter, mostly followed by stone extraction using endoscopic retrograde cholangiopancreatography (ERCP) [2]. ERCP is an important but not essential step during therapy and whether it should be done depends on the specific situation of patients. According to studies conducted by the endoscopy center of the authors' institution, pancreatic stones were usually endoscopically removed by ERCP after ESWL to achieve complete stone clearance [3, 4]. However, when stones were spontaneously cleared, ERCP would not be necessary [5].

In this study, the treatment strategy of patients was not displayed (ESWL or ESWL + ERCP). In addition, the timing of second noncontrast CT was not mentioned, namely, before or after ERCP, as clearance rate of pancreatic stone maybe achieved by spontaneous clearance or stone extraction of ERCP.

Second, this is a retrospective study and CT is not necessarily taken after endoscopy treatment. For patients who take CT after treatment are likely those suspected of complications (including acute pancreatitis, bleeding, infection, steinstrasse, and perforation) induced by ESWL or ERCP [6], which would cause a selection bias of patients. Moreover, onset of complications would affect the clearance of pancreatic stones and vice versa.

Third, in previous studies of pancreatic stones, the standard of stone clearance rate definition is based on main pancreatic duct (MPD) stones. Complete stone clearance was defined as clearance of $> 90\%$ of the MPD stone volume, whereas partial clearance was defined as clearance of 50% – 90% of the MPD stone volume [7]. In this study, all the stones including those in branch ducts were precisely calculated. It would be better if the authors could analyze in subgroups (MPD stones, branch stones, and both), making the prediction of outcomes more precise.

Compliance with ethical standards

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Conflict of interest Author Zheng-Lei Xu declares that he has no conflict of interest. Author Jun Yao declares that she has no conflict of interest. Author Li-Sheng Wang declares that he has no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

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