

Therapeutic endoscopic ultrasound: Between reducing the cost and detection of early complications

Endoscopic ultrasound (EUS) has had major advancements in the last decade, moving beyond its diagnostic role and becoming a standard of care for many pancreaticobiliary diseases. The role has expanded to transluminal drainage for gallbladder disease and gastroenterostomy for malignant gastric outlet obstruction.^[1-5]

With evolution in therapeutic EUS, a safe and cost-effective practice has become an urgent need. Despite the high efficacy of these procedures, the rate of complications has ranged from 5% to 18% which include bleeding, perforation, infection, stent migration, malposition, and rarely pneumothorax or air embolism.^[6,7]

EUS-guided pancreatic fluid drainage has replaced conventional surgical therapies with a significant margin of safety and efficacy. The standard technique usually involves the use of a fine needle aspiration (FNA) needle injection followed by dilation and transluminal stent placement.^[8] In this issue of *The Saudi Journal of Gastroenterology*, there are two studies in the field of therapeutic EUS discussing a modified technique for pancreatic fluid collection and the role of routine plain computed tomography (CT) scan 1 day following EUS procedure.

The first article by Rai *et al.* from India has evaluated a modified technique on the management of pancreatic fluid collection using a cystotome instead of FNA needle and dilator to create a transenteric access into the fluid collection followed by a metallic stent placement.^[9] In a retrospective chart review of 45 patients, the authors reported a technical and clinical success rate of 100% and 97.8%, respectively. In this study, the pancreatic fluid collection was relatively large in size and accessible via a trans-gastric approach. They reported six complications, including stent occlusion and pneumoperitoneum, which have been reported in the standard technique as well.

This modified technique seems to be an alternative for selected patients with a large accessible collection in a stable endoscopic position. Despite the small number of patients in the report and the retrospective nature of the study, we feel that this technique can be offered as an alternative. We stress that this modified procedure

should be done by an expert endoscopist who has enough experience with standard techniques and management of related complications.

In the second article, Kiyanagi *et al.* from Japan report the usefulness of routine plain CT scans the day after an interventional EUS procedure. The study was a retrospective review of 81 patients who had a CT scan on day 1 post-therapeutic EUS, and discusses whether this practice was helpful in detecting early complications. Thirty patients (18.9%) with complications were detected by a plain CT scan 1 day following the procedure and 16 patients (50%) were managed conservatively, whereas six patients required additional therapeutic procedures, and eight patients were treated medically. The reported procedures varied between pancreaticobiliary and gallbladder drainage.^[10]

As of today, the performance of a plain CT scan following therapeutic EUS is not a routine practice, and further images including CT scans are driven by the patient's symptoms and development of biochemical and hematological abnormalities. The authors report that routine CT scan was part of their local protocol and they proposed an algorithm based on their study.

We do think routine CT scan is unnecessary for many reasons. Indeed, most patients who might need further treatment or intervention would declare themselves good following the procedure, regardless of the complexity of the procedure performed. Also, there is no clear data if early detection would change the overall outcome and whether this practice can reduce the overall cost or hospital stay. Hence, CT scans should be performed on a case-by-case basis rather than on a routine basis.

Resheed Alkhiari, Michel Kahaleh¹


Department of Medicine, College of Medicine, Qassim University, Qassim, Saudi Arabia, ¹Division of Gastroenterology, Rutgers Robert Wood Johnson University Hospital, New Brunswick, NJ, USA

Address for correspondence: Dr. Resheed Alkhiari, Department of Medicine, College of Medicine, Qassim University, Qassim, Saudi Arabia.
E-mail: Dr.alkhiari@hotmail.com

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