

To Scan or Not to Scan, That is the Question

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Dear Editor,

We read with interest the well-presented and interesting case-presentation titled Synchronic Volvulus of Sigmoid and Transverse Colon: A Rare Case of Large Bowel Obstruction (1). Since the patient underwent an exploratory laparotomy without a preoperative CT scan, we would like to seize the opportunity to comment on the imaging approach to the acute abdomen and bowel obstruction in the elderly patients. As the population ages, raising awareness of the differential pattern of obstruction and abdominal pain in the elderly becomes increasingly more relevant. Moreover, elderly or not, CT scan should be considered in the patients who do not need urgent operation.

Bowel obstruction is a far more frequent cause of abdominal pain in the elderly, representing a different and more diverse spectrum of underlying etiologies, compared to the young patients. In addition to common pathologies such as adhesion bands and inflammatory bowel disease, unusual entities such as volvulus, bezoars, and gall stone ileus become more frequent with advancing age (2). Neoplasms will also be seen more frequently associated with bowel obstruction as will entities related to frequently encountered comorbidities of advancing age. Examples include but are not limited to bowel wall hematoma associated with anticoagulants and bowel ischemia associated with atherosclerosis, myocardial infarction, and arrhythmias such as arterial fibrillation (2, 3).

In a recent study performed on 94 elderly patients with acute abdomen who underwent emergency surgery, intestinal obstruction was observed in 19.1%, incarcerated hernias in 17.0%, intestinal perforation in 14.9%, gastroduodenal perforation in 10.6% with volvulus in only 5.3% of the patients. As indicated in the case report, even a single volvulus is a rare cause of bowel obstruction in the elderly (1, 4-6). As it can be inferred from the above-mentioned rates, roughly one third of the patients can

present with x-rays very similar to that of the patient in the report. In comparison CT scans perform far better in terms of diagnostic accuracy and specificity as well as sensitivity. Various studies indicated that CT scan is the most accurate modality in diagnosis of bowel ischemia secondary to obstruction (5, 6).

Likewise, bowel perforation is more frequent in the elderly given both a higher incidence of malignancy and vascular injuries as well as a higher incidence of foreign body ingestion accidents. Foreign body ingestion is especially frequent in the elderly due to the presence of dentures and co-morbid conditions that reduce sensitivity of the palate. Multiple studies concluded that CT scan is the most accurate modality to diagnose bowel perforation in the early stage (7). A preoperative knowledge of possible bowel perforation in the selected patients can potentially affect surgical technique (5, 8).

Contrary to the common belief that CT scan is less available in South-West Asia than in the western hemisphere, in reality the extensive government subsidies dedicated to healthcare and less stringent insurance policies made the cost of most imaging studies in Iran sensible compared to those of many other countries. Also, despite the extensive media attention paid to the minute potential health risk associated with the ionizing radiation from a CT scan, the radiation dose of a CT scan (1-14 mSv) is comparable to the background annual radiation that we receive from the environment, such as radon and cosmic radiation (1-10 mSv). Even the highest estimations of risk suggest that the risk of dying from a CT scan is far less than the risk of death from a car accident (9). In the elderly population, in particular, this risk can be reasonably estimated as nil, while sepsis resulting from peritonitis is the most likely cause of death in the elderly patients referring to the emergency wards with abdominal pain (4).

Considering the affordability and practicality of per-

forming the study and the diversity of the causes of acute abdomen and intestinal obstruction, especially in the elderly, we believe that performing exploratory laparotomies without pre-operative CT scan performed on the stable patient is no longer routinely justified under normal clinical settings in the urban centers in Iran.

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