



ORIGINAL ARTICLE

Initial multidetector computed tomography of blunt splenic injury: Impact on management



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Received 16 November 2014; accepted 1 May 2015

Available online 26 May 2015

KEYWORDS

Blunt trauma;
Splenic injury;
Contrast material extravasation;
Non-operative management;
Multidetector CT

Abstract *Purpose:* This study aimed to assess the role of MDCT in evaluation and management of blunt splenic injury.

Patients and methods: We retrospectively traced clinical data of patients who underwent MDCT for suspected blunt traumatic intra-abdominal injuries and were admitted in general surgery department of Nizwa Hospital, Oman, during period from March 2012 to February 2013. 44 patients were found to have splenic injuries that were verified either during laparotomy or with clinical notes during hospital stay. The initial MDCT findings were correlated with the final diagnosis and management of the patients.

Results: The 44 splenic injuries were classified according to American Association for Surgery of Trauma (AAST) grading scales, and 32 of them (72.7%) underwent non-operative management. Of the 7 patients with contrast material extravasation (CME), all underwent spleen-related laparotomy (100%) and demonstrated active bleeding during surgery. Only 5 of the remaining 37 patients without CME (13.5%) required spleen-related laparotomy. The difference was statistically significant ($p < 0.01$).

Conclusion: MDCT evaluation of blunt splenic injuries provides accurate diagnosis which is helpful in determining the proper plan for successful management strategy.

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1. Introduction

The incidence of splenic injury in polytrauma patients was reported to be 44% (1). Also, the mortality risk associated with uncomplicated splenectomy can reach 30–40% (2). Even now, figures suggest that asplenic people have a 5% risk of developing septic complications, resulting in mortality rates of up to 70% (3). The recent trend in management of splenic trauma is preservation whenever possible (4), and consequently non-operative management (NOM) of splenic injury is nowadays

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Peer review under responsibility of Egyptian Society of Radiology and Nuclear Medicine.

<http://dx.doi.org/10.1016/j.ejrn.2015.05.001>

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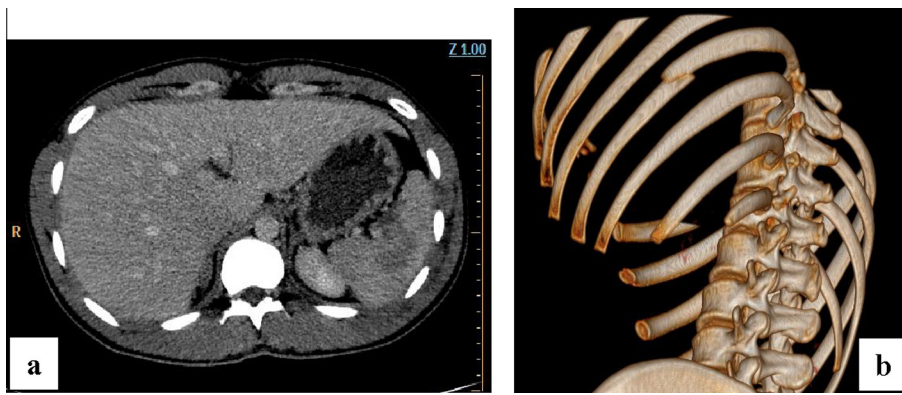


Fig. 1 MDCT of 25-year-old man with grade II splenic injury: (a) axial image obtained in portal venous phase showed intra-parenchymal ill-defined rounded heterogeneous area less than 5 cm, with no capsular disruption coping with parenchymal hematoma. (b) 3D VR image showed fracture of the left 9th rib.

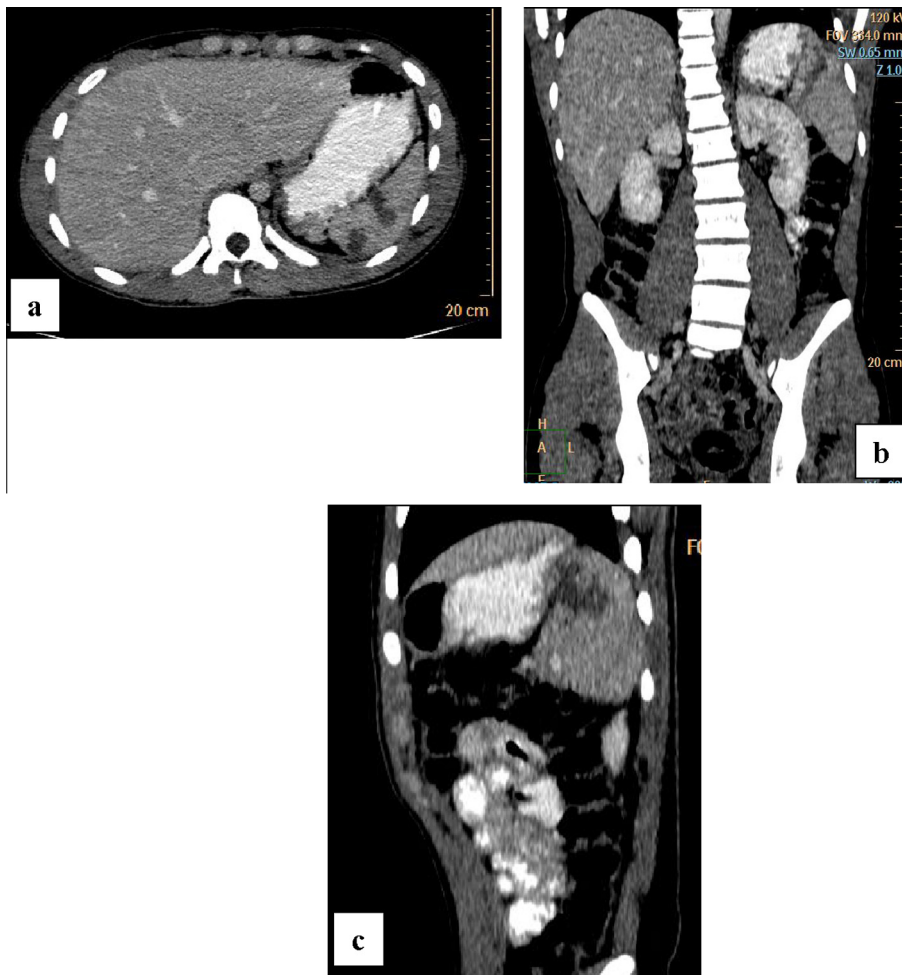


Fig. 2 MDCT of 15-year-old boy with grade III splenic injury: (a) axial image obtained in portal venous phase showed two linear nonenhanced hypodense parenchymal lacerations. (b and c) Coronal and sagittal images confirmed the depth of largest laceration was more than 3 cm.

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