



# The Value of Lateral Decubitus Abdominal X-Ray in the Diagnosis of Perforation

## Perforasyon Tanısında Lateral Dekübit Karın Grafisinin Yeri

Perforasyon / Perforation

Afsin Emre Kayipmaz, Cemil Kavalci, Dilek Suveren Artuk  
Baskent University, Faculty of Medicine, Emergency Department, Ankara, Turkey

A 72-year-old male home-care patient was admitted to our emergency department with complaint of decreased oral intake. His past history was notable for an unnamed muscle disorder, glaucoma and panic attack. Physical examination showed decreased bowel sounds and abdominal distention. The laboratory investigations showed an increased White Blood Cell count (32920 cells/ $\mu$ l) and C-Reactive Protein level (270 mg/L). A lateral decubitus abdominal x-ray was performed due to immobilization of patient. A free air was observed in the x-ray (figure 1). Then, contrast-enhanced computed tomography was carried out and showed sigmoid colon perforation.

In the study of Bansal et al. X-ray demonstrated pneumoperitoneum in 89.2% of 1723 patients and they said: "Plain radiography is one of the first-line investigation technique, especially in developing countries where limited availability of resources" [1]. Moriwaki et al. determined bedside ultrasonography had sensitivity of 85% and a specificity of 100% in patients with serious abdominal pain and intraperitoneal free fluid [2]. Chiu et al. showed while erect chest radiograph had a sensitivity of 85.1%, left decubitus abdominal plain film had 98% in the diagnosis of free fluid [3].

Taking plain radiographs in the lateral decubitus position remains as one of the first-line diagnostic tests for immobile patients in emergency department.

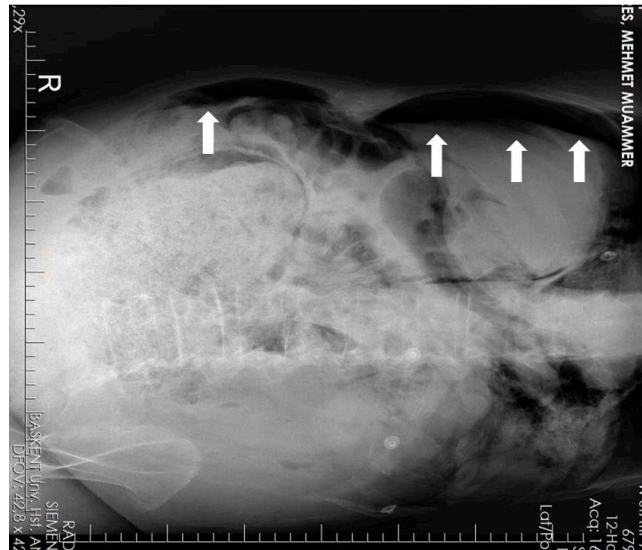


Figure 1. Lateral decubitus abdominal X-ray

### References

1. Bansal J, Jenaw RK, Rao J, Kankaria J, Agrawal NN. Effectiveness of plain radiography in diagnosing hollow viscus perforation: study of 1,723 patients of perforation peritonitis. *Emerg Radiol* 2012; 19(2): 115-9.
2. Moriwaki Y, Sugiyama M, Toyoda H, Kosuge T, Arata S, Iwashita M, Tahara Y, Suzuki N. Ultrasonography for the diagnosis of intraperitoneal free air in chest-abdominal pelvic blunt trauma and critical acute abdominal pain. *Arch Surg* 2009;144(2):137-41.
3. Chiu YH, Chen JD, Tiu CM, Chou YH, Yen DH, Huang CI, Chang CY. Reappraisal of radiographic signs of pneumoperitoneum at emergency department. *Am J Emerg Med* 2009; 27(3): 320-7.

DOI:10.4328/AEMED.45

Received:15.12.2014 Accepted: 07.01.2015 Published Online: 01.01.2015

Corresponding Author: Afsin Emre Kayipmaz, Baskent University, Faculty of Medicine, Emergency Department, Ankara, Turkey.  
T.: +90 3122126868 (6706) E-Mail: aekayipmaz@hotmail.com