

Diagnostic value of plain abdominal radiographs in patients with acute abdominal pain

ABSTRACT

Objective: A prospective study was performed over a 3-month period in a tertiary referral centre to evaluate the appropriateness and contribution of plain abdominal radiographs (PAR) in the diagnosis and management of adult patients presenting with acute abdominal pain. **Methods:** Forward stepwise logistic regression was used to examine the correlation between PAR findings and the final diagnosis. The Chi-squared test was used to determine any changes in patient management including requirement for surgical intervention based on PAR findings ($p < 0.05$). **Results:** Of 168 patients (246 PAR), 59 (35%) had positive findings on PAR. PAR were most sensitive in cases of intestinal obstruction (odds ratio, OR = 33.548, $r = 0.561$). The sensitivity was further increased if three of the following predictive signs were present: exaggerated bowel sounds (OR = 13.350, $r = 0.154$), abdominal distension (OR = 2.993, $r = 0.234$) and age over 50 years (OR = 2.301, $r = 0.027$). PAR were non-diagnostic in 82% of patients with acute abdominal pain ($p < 0.001$). **Conclusion:** PAR do not play a major role in influencing the management of patients with acute abdominal pain without coexisting bowel obstruction.

Keyword: Abdominal pain; Abdominal radiograph; Acute