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journal homepage: www.casereports.comA plain abdominal radiograph diagnosis of appendicitis[☆]Collins Ekere^{*}, Alice Lillie, Chaitanya Mehta, Andrew Clarke

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ABSTRACT

INTRODUCTION: Despite reported poor sensitivity and specificity, plain abdominal radiographs have a role in the investigation of suspected appendicitis.

PRESENTATION OF CASE: We report a case of a previously healthy 47 year old man, who presented with sudden onset abdominal pain associated with a raised temperature. He gave a short history of pain around the umbilicus, which radiated to his right iliac fossa over a period of hours. On examination his abdomen was soft with rebound tenderness in the right iliac fossa. Investigations revealed white cell count $11.2 \times 10^9/L$, CRP 4 mg/L and normal haemoglobin, renal and liver function tests. An inflamed appendix was visible with thickened walls on a plain abdominal radiograph and was confirmed during laparoscopic appendectomy and subsequent histology. He made good recovery and was discharged.

DISCUSSION: Prominent appendiceal wall and air in the appendix has been described in the literature as a CT finding that can distinguish appendicitis from other differential diagnoses and here we present a case of diagnosis of appendicitis on a plain abdominal radiograph showing this sign which to the best of our knowledge is rarely seen on abdominal films.

CONCLUSION: Careful assessment of plain abdominal films in suspected appendicitis is encouraged not just for exclusion of other causes of pain but also in the possible detection of an inflamed appendix.

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1. Introduction

The role of plain abdominal radiographic signs in acute appendicitis is well recognised¹ but in comparative studies against advanced imaging modalities like CT, it has been reported as neither specific nor sensitive and frequently misleading.² This had led to a decline in utilisation in favour of ultrasonography or CT. The plain abdominal radiograph is still an important tool to exclude differentials of an acute abdomen.

2. Case presentation

The patient is a previously healthy 47 year old man that presented with sudden onset abdominal pain and a temperature of (37.6 °C). The pain was initially experienced around the umbilicus with migration to his right lower quadrant over the next 6 h with associated nausea. On examination, his abdomen was soft with

rebound tenderness in the right iliac fossa. The rest of the physical examination was otherwise unremarkable as was his physiological observations. Laboratory investigations revealed haemoglobin of 157 g/L, white cell count of $11.2 \times 10^9/L$, CRP of 4 mg/L and normal renal and liver function tests. On his abdominal radiograph film, air in the appendix is visible with prominent appendiceal walls (Fig. 1). A radiological diagnosis of appendicitis was made which was confirmed during a subsequent laparoscopic appendectomy (Fig. 2). He had an uncomplicated post-op period and was discharged the following day. Subsequent histology showed acute suppurative appendicitis.

3. Discussion

Prominent appendiceal wall and air in the appendix has been described in the literature as a CT finding that can distinguish appendicitis from other differential diagnoses.^{3,4} We present a case in which the diagnosis of appendicitis was clinched by a plain abdominal radiograph showing this sign which to the best of our knowledge is rarely seen on abdominal films. The unavailability out of hours of more widely accepted modalities of investigation to make the diagnosis would in this case have led to unnecessary delay of surgical intervention and might have had an adverse effect on clinical outcome.

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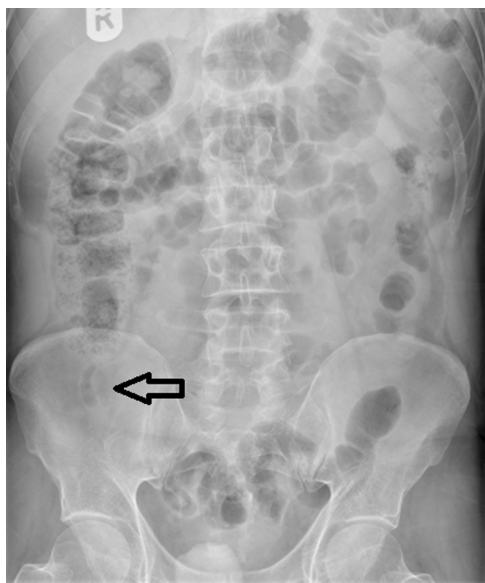


Fig. 1. Plain abdominal radiograph showing prominent appendiceal wall and air.

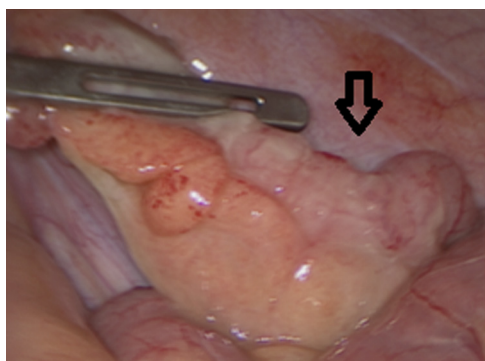


Fig. 2. Laparoscopic photograph showing the intra-operative findings of an inflamed appendix.

4. Conclusion

Careful assessment of plain abdominal films in suspected appendicitis is encouraged not just for exclusion of other causes of pain but also in the possible detection of an inflamed appendix.

Conflict of interest

None to declare.

Funding

None to declare.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Collins Ekere – Writing of paper.
 Alice Lillie – Clinical findings.
 Chaitanya Mehta – Surgical findings on laparoscopy.
 Andrew Clarke – Consultant senior review of paper.

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