



Failure to diagnose: appendicitis

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Case histories are based on actual medical negligence claims, however certain facts have been omitted or changed by the author to ensure the anonymity of the parties involved.

While appendicitis is a relatively infrequent reason for presentation in the general practice setting, claims against general practitioners alleging a failure to diagnose appendicitis are not uncommon. This article examines some of the factors involved in the delay in diagnosis of appendicitis and outlines some risk management strategies for GPs.

Case history

The 43 year old patient and her family had attended the Corner Street Medical Practice for many years. On 20 September 2003, the patient was seen by Dr Mack with a history of vomiting and diarrhoea. The symptoms had developed overnight and the patient was now complaining of generalised abdominal pain. On examination, the patient was afebrile, normotensive and slightly dehydrated. Her abdomen was noted to be generally tender with no guarding or rebound. Bowel sounds were active. Dr Mack made a provisional diagnosis of gastroenteritis and gave the patient an intramuscular injection of Stemetil. She asked the patient to wait in the treatment room to see if her symptoms settled. The patient was observed for approximately 60 minutes. Her abdominal pain and vomiting increased during this time. Dr Mack decided to refer the patient to the local emergency department for assessment. She provided the patient with a referral letter outlining her history and the examination findings.

The patient was subsequently admitted to hospital with a provisional diagnosis of gastroenteritis and dehydration. She was treated with intravenous fluids and analgesics for several days before undergoing an urgent laparotomy. At laparotomy there was widespread peritonitis and a gangrenous appendix was removed. The patient went on to develop septicæmia and died on 3 October 2003.

Medicolegal issues

The patient's husband and children (the 'plaintiffs') brought a 'Compensation to relatives' claim against the general practitioner and the surgeon. The claim alleged that the medical practitioners had breached their duty of care in failing to diagnose appendicitis and that the patient's death had been caused by this delay in diagnosis. An expert GP report annexed to the Statement of Claim was critical of Dr Mack's management of the patient. However, the report was based on an incorrect assumption that the patient had presented to Dr Mack with abdominal symptoms on 18 September 2003, 2 days before her admission to hospital. A review of the medical records revealed that the patient had in fact seen Dr Mack on 18 September 2003. This consultation was for a skin check and Dr Mack had treated a few solar keratoses with liquid nitrogen. Dr Mack was certain that the patient had not presented with abdominal symptoms at this consultation and there

was no note of abdominal symptoms in the medical records.

The solicitors acting on behalf of Dr Mack forwarded a copy of the medical records to the plaintiffs' solicitors. An expert GP report obtained on behalf of Dr Mack concluded that her management of the patient was entirely appropriate. The expert stated that Dr Mack's provisional diagnosis of gastroenteritis was reasonable. When the patient's symptoms had not settled, Dr Mack had 'appropriately and promptly' referred the patient to hospital for further assessment. The expert noted that the staff at the hospital had agreed with the provisional diagnosis of gastroenteritis. Further, there was a delay of some days before the surgeon performed a laparotomy and the diagnosis of appendicitis was made. Based on this expert report and the medical records, the plaintiffs' solicitors agreed to discontinue the claim against Dr Mack.

For a plaintiff to be successful in a claim of medical negligence, he or she must prove that a duty of care was owed to the patient, that the duty of care was breached, and the breach caused damage to the patient (causation). Should the plaintiff fail to establish any of the above, their claim will be unsuccessful.

In this case, there was no basis for an allegation of negligence against the GP. Expert evidence confirmed that Dr Mack's management met the standard of care expected of a reasonable GP. Even if there had been a breach of duty of care on the part of the GP, the several day delay in diagnosis and performance of an appendectomy by the surgeon at the hospital would have amounted to a *novus actus interveniens* (an intervening act that broke the chain of causation).

Discussion

An analysis of approximately 50 000 claims against primary care physicians in the United States revealed that no single condition accounted for more than 5% of all negligent claims.¹ The underlying causes of the claims were clustered around 'diagnosis error', accounting for about one-third of the

claims. The ratios of condition specific claims were compared to the relative frequency of presentations of those conditions in a primary care setting. This analysis revealed a disproportionate risk for a number of conditions including appendicitis. Appendicitis was a relatively rare reason for presentation in primary care (0.003%) but was more common for negligent adverse events in claim data (1.6%). Interestingly, based on these relative risk ratios, appendicitis was 25 times more likely to generate a claim for negligence than breast cancer.

Risk management strategies

This claim is a good example of the old adage 'good records = good defence'. Based on the medical records, the plaintiffs' version of events was refuted and the claim against the GP was discontinued.

The error rate in diagnosing patients with pain in the right iliac fossa approaches 40%, and the appendix is normal in approximately 20% of patients who undergo exploratory laparotomy because of suspected appendicitis.² The three signs and symptoms that are most predictive of acute appendicitis are pain in the right lower quadrant, abdominal rigidity, and migration of pain from the periumbilical region to the right lower quadrant. Not surprisingly, a delay in diagnosis of appendicitis is more likely to occur in patients who:

- present atypically, with fewer complaints of right lower quadrant pain and the absence of nausea and/or vomiting
- do not receive a thorough physical examination, including a rectal examination
- receive intramuscular narcotic analgesia for undiagnosed abdominal pain or symptoms
- are given a diagnosis of gastroenteritis, despite the absence of typical diagnostic criteria of nausea, vomiting and diarrhoea
- are not asked to re-present for review within 12–24 hours.³

Careful attention to the patient's history, a thorough physical examination and early clinical review will minimise the possibility of a delay in diagnosis of appendicitis.

Conflict of interest: none declared.

References

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