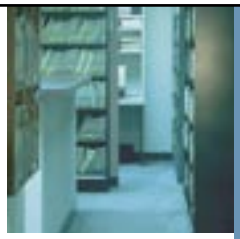

Acute myocardial infarction

Medicolegal issues

Sara Bird, MBBS, MFM (clin), FRACGP, is Medicolegal Adviser, MDA National. sbird@mdanational.com.au

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.

Up to 50% of the medical negligence claims arising in general practice result from an allegation of failure to diagnose a patient's condition. Currently, acute myocardial infarction (AMI) is the most prevalent condition involved in these claims. This article examines some of the factors involved in failure to diagnose AMI claims.

Case history

Mr John Hunter, 39 years of age, had attended Dr Riley for many years. The patient had a long history of primary hypertension and seronegative arthritis. On 15 April 2002, the patient presented complaining of burning epigastric pain that radiated to the retrosternal area. The pain had commenced the previous evening after dinner and was associated with belching. Mr Hunter reported that the pain had eased somewhat with Mylanta. There was no association with exertion. Physical examination was unremarkable. Dr Riley made a provisional diagnosis of gastro-oesophageal reflux disease, exacerbated by the recent use of nonsteroidal anti-inflammatory drugs. He organised a full blood count, full blood profile and *Helicobacter pylori* testing. Dr Riley commenced the patient on a proton pump inhibitor. He asked him to return in 1 week to obtain the results of the tests and to consider if an endoscopy was required. Dr Riley also advised the patient to return for review if the pain worsened or changed in any way. Mr Hunter re-presented 2 days later, on 17 April 2002. At this time, the patient complained that he had been experiencing epigastric pain which extended to his mid-chest, jaw and arms. The pain was intermittent, occurring on and off over the past 24 hours. He described the pain as a dull ache and thought it was related to exertion. At the time of the consultation, the patient was pain free. He was not sweating and did not look unwell. Physical examination was normal. Dr Riley was concerned that the pain may be cardiac in origin. The symptoms appeared to be more consistent with coronary artery disease than gastro-oesophageal reflux. Dr Riley recommended that the patient attend the local emergency department (ED) to undergo further assessment and investigations. Mr Hunter subsequently attended the ED and was seen by a resident medical officer (RMO). The RMO ordered a chest X-ray, electrocardiogram (ECG) and cardiac enzymes. The RMO considered the patient's history was more consistent with oesophageal reflux and spasm. The tests were reported as normal and the RMO discharged the patient home with advice to see his general practitioner in the morning. Four hours after his discharge from ED, Mr Hunter suddenly collapsed at home. Despite resuscitation attempts by his wife and ambulance officers, Mr Hunter was unable to be resuscitated. His death was reported to the Coroner and autopsy revealed extensive coronary artery disease and the presence of acute myocardial infarction involving the anterior cardiac wall.

In January 2003, the patient's wife commenced legal proceedings against the GP and the hospital.

Medicolegal issues

In the Compensation to Relatives Act claim, the patient's wife alleged that Dr Riley had failed to diagnose AMI at the consultations on 15 and 17 April 2002. Against the hospital, it was alleged that the RMO had failed to diagnose AMI and failed to arrange appropriate consultant review and admission of the patient. The claim alleged that the patient's death had been caused by the negligence of the GP and RMO.

On receipt of the claim, Dr Riley contacted his medical defence organisation and solicitors were instructed on his behalf. Expert opinion was sought from a GP regarding the standard of Dr Riley's care. The expert report was entirely supportive of Dr Riley's management of Mr Hunter. The expert noted that apart from hypertension, Mr Hunter did not have any significant cardiac risk factors. His symptoms and presentation on 15 April 2002 were not consistent with that of coronary artery disease. Dr Riley appeared to have taken a careful history to elicit the nature of the patient's pain. The expert concluded that 'at the consultation on 17 April 2002, Dr Riley had appropriately and promptly referred the patient to the local ED'. A review of the ECG taken in the ED revealed changes consistent with acute ischaemia. The ECG appeared to have been misread by the RMO. The GP concluded that any liability in this matter should fall to the hospital and not Dr Riley. Based on this report, the solicitors acting for Dr Riley obtained a discontinuance of the claim against him. Indeed, the solicitors noted that even if there had been a breach of duty of care on the part of the GP in this case, the actions of the RMO at the hospital would have amounted to a *novus actus interveniens* (an intervening act that broke the chain of causation).

Discussion

Cardiovascular disease remains the leading cause of death in Australia, accounting for 38% of all deaths.[1] Reviews of claims data indicate that AMI is currently the most prevalent condition involved in 'failure to diagnose' claims against GPs.[2,3] In one review of approximately 20 000 GP claims, AMI claims resulted in the highest percentage of paid claims (53.1%) and the highest average payment.[3]

Correctly diagnosing patients with the symptom of chest pain is a major challenge in general practice and missing the diagnosis of AMI or cardiac ischaemia may have serious consequences for the patient. It has been estimated that 10–30% of patients with AMI will have an 'atypical' presentation.[4] Certain subgroups of patients are more at risk of being misdiagnosed than others. The majority of patients with AMI who are inappropriately discharged home are either young patients with unsuspected AMI or elderly patients with 'atypical' symptoms such as acute weakness, syncope, confusion or cerebrovascular accident. Between 2 and 6% of AMIs occur in patients younger than 40 years of age, a group often regarded as being 'too young' to have AMI.

Risk management strategies

Murtagh states that: 'all sudden acute chest pain is cardiac (and potentially fatal) until proven otherwise'.[5] In a claim study undertaken by the Physician Insurers Association of America, the top five factors contributing to the failure to diagnose AMI were:

- failure to order or delay in ordering appropriate investigations (55% of claims)
- failure to suspect myocardial infarction (48% of claims)
- failure to admit or delay in hospital admission (39% of claims)
- failure to refer or delay in making a timely referral or consultation (31% of claims)
- misinterpretation of results of investigations, including ECGs (27% of claims).[6]

Nearly 70% of the patients included in the study reported no past history of coronary artery disease. The study findings suggested that, in spite of presenting symptoms and risk factors, the medical practitioners may not have responded aggressively enough to patients with possible cardiac conditions and therefore failed to identify the correct diagnosis. The most common incorrect diagnoses made by the medical practitioners in the study were:

- gastrointestinal problems (26% of claims)
- musculoskeletal pain, most commonly costochondritis (21% of claims).

In patients who present with 'atypical' chest pain or other symptoms that could be cardiac in origin, GPs should maintain a high index of suspicion for coronary artery disease, particularly in those patients with known cardiac risk factors.

Summary of important points

- AMI is the condition most commonly involved in 'failure to diagnose' claims against GPs.
- 10–30% of patients with AMI will have an atypical presentation.

Conflict of interest: none declared.

References

1. The shifting burden of cardiovascular disease. National Heart Foundation. 2 May 2005. Available at: www.heartfoundation.com.au.
2. Aders H. Missed or failed diagnosis: what the UNITED claims history can tell us. Available at: www.unitedmp.com.au.
3. Physician Insurers Association of America. General and Family Practice Claim Summary, 2002.
4. Cameron P, Jelinek G, Kelly A-M, et al, editors. Textbook of adult emergency medicine. 2nd ed. Edinburgh: Churchill Livingstone, 2004.
5. Murtagh J. General practice. 3rd ed. Sydney: McGraw Hill, 2003.
6. Physician Insurers Association of America. Acute myocardial infarction claims. In: Failure to diagnose acute myocardial infarction (CD-ROM). NORCAL Risk Management, 2000.

AFP

Correspondence
Email: afp@racgp.org.au