Scottish Parliament Region: Lothian

Case 200802971: Lothian NHS Board

Summary of Investigation

Category

Health: Hospital; accident and emergency; clinical treatment/diagnosis

Overview

Mrs C raised a complaint against Lothian NHS Board (the Board) regarding the care which her son, Mr A, had received when he was admitted by ambulance to the Accident and Emergency Department (the Department) at the Royal Infirmary of Edinburgh (the Hospital) complaining of chest pain. Mr A was discharged with a diagnosis of indigestion. Some weeks later, Mr A collapsed and died. A post mortem examination found that he had been suffering from acute heart disease.

Specific complaints and conclusions

The complaints which have been investigated are that:

(a) the ECG performed by the ambulance crew was not available to or checked by the Department doctor *(upheld)*; and

(b) apart from an ECG, no other investigations were undertaken on Mr A when he arrived at the Hospital and local protocols and Scottish Intercollegiate Guidelines Network guidelines for patients presenting with chest pain were not adequately followed *(not upheld)*.

Redress and recommendations

The Ombudsman recommends that the Board:

(i) review their current communication methods between ambulance staff and clinical staff (both verbally and documentary) in respect of patients who are admitted to the Department;

(ii) remind clinical staff of the importance of ensuring that all ECGs are available for review by clinical staff for patients presenting with chest pain; that their findings are documented in the patient's clinical records; and the Board's audit procedures in relation to ECG sign off are followed;

(i) remind staff of the importance of seeking details of any family history of heart problems from patients presenting with chest pain and documenting this in the clinical records; and

(ii) apologise to Mrs C for the failings identified in this report.

The Board have accepted the recommendations and will act on them accordingly.

Main Investigation Report

Introduction

1. The complainant (Mrs C) raised a complaint against Lothian NHS Board (the Board) regarding the care which her son, Mr A, had received when he was admitted to the Royal Infirmary of Edinburgh (the Hospital) by ambulance on 25 January 2008 complaining of chest pain. Mr A was discharged from the Accident and Emergency Department (the Department) with a diagnosis of indigestion. On 18 March 2008, Mr A collapsed while cycling. He was taken by ambulance to another hospital where he died. Following a post mortem examination, Mr A was found to have had acute heart disease.

2. Mrs C made a formal complaint to the Board regarding the care which Mr A had received at the Hospital on 25 January 2008. She questioned, amongst other things, whether the electrocardiogram (ECG) which had been performed in the ambulance had been seen by the doctor (the Doctor) who had attended to Mr A in the Department; what investigations had been carried out on Mr A in the Department; and whether he had been asked about his family history. Mrs C raised concerns that Mr A's cardiovascular risks had not been assessed properly. Mrs C was unhappy with the Board's response to her complaint and she raised her complaint with the Ombudsman on 25 February 2009. Mrs C felt that the Hospital had not followed the Scottish Intercollegiate Guidelines Network (SIGN) guidelines for assessing patients at cardiovascular risk, by failing to consider that Mr A was a 41-year-old male who had a family history of angina and high cholesterol.

3. The complaints from Mrs C which I have investigated are that:

(a) the ECG performed by the ambulance crew was not available to or checked by the Doctor; and

(b) apart from an ECG, no other investigations were undertaken on Mr A when he arrived at the Hospital and local protocols and SIGN guidelines for patients presenting with chest pain were not adequately followed.

Investigation

4. In investigating this complaint, my investigator has considered correspondence supplied by Mrs C and the Board, as well as Mr A's clinical records for the relevant period. Following receipt of the clinical records, my investigator also requested copies of the ambulance and Department ECGs and was provided with these by the Board. My investigator has obtained the opinion

of one of the Ombudsman's medical advisers (the Adviser), who is an Accident and Emergency Consultant.

5. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. Mrs C and the Board were given an opportunity to comment on a draft of this report. Abbreviations are sent out in Annex 1.

(a) The ECG performed by the ambulance crew was not available to or checked by the Doctor; and (b) apart from an ECG, no other investigations were undertaken on Mr A when he arrived at the Hospital and local protocols and SIGN guidelines for patients presenting with chest pain were not adequately followed

Clinical background

6. Mr A was admitted to the Hospital by ambulance at 01:15 on 25 January 2008 having developed chest pain after taking a milky drink. There was an ECG performed by the ambulance crew. My investigator understands from the Adviser that the records show that glyceryl trinitrate (GTN) and aspirin had been administered (which is standard treatment for suspected cardiac pain) in the ambulance with no result. Mr A was noted to be a light smoker and to have no significant past medical history. There is no indication from the clinical records that Mr A was asked about any family history of heart problems. A further ECG was performed at the Hospital (the Department ECG) and was noted as being normal. Mr A was given gaviscon and omperazole (treatment for indigestion), which appeared to relieve his symptoms. Mr A was advised by the Doctor that he would be happy for Mr A to stay for 30 minutes for further observations but Mr A declined. The records indicate that Mr A was told of the risks and was made aware that he should return to the Department if the pain worsened or returned.

Mrs C's complaint and the Board's response

7. Mrs C initially raised her concerns with the Department in a letter dated 15 April 2008 and asked for an investigation into what had happened when Mr A attended the Department on 25 January 2008. The Board responded on 2 May 2008, detailing the clinical background (see paragraph 6), and added that Mr A had been admitted with epigastric (abdominal) and central chest pain which did not radiate (spread) anywhere. The response indicated that Mr A's pain had been relatively severe but had resolved on reaching the Hospital and there were no complaints from him of nausea, vomiting or sweating. On

examination, Mr A was found to be comfortable with stable blood pressure and pulse; his cardiovascular and respiratory system revealed no abnormalities and his abdomen was soft and tender. The Doctor did not consider that Mr A was suffering from chest pain related to a cardiac (heart related) cause and, therefore, did not feel that a cardiology review was necessary.

8. Mrs C remained unhappy and made a formal complaint to the Board in October 2008 regarding the care which her son had received at the Hospital on 25 January 2008. She questioned, amongst other things, whether the ECG which had been performed in the ambulance had been seen by the Doctor who had attended to Mr A in the Department; what investigations had been carried out on Mr A in the Department; and whether he had been asked about his family history. Mrs C raised concerns that Mr A's cardiovascular risks had not been assessed properly.

9. The Board responded to Mrs C's formal complaint on 11 December 2008. The response explained that no blood tests or other investigations were performed on Mr A in the Department other than the ECG. After Mrs C complained, the ECG was reviewed by a consultant cardiologist who felt that it was within normal variations. The Board explained that an ECG was performed by the ambulance crew, however, there was no record of it having been reported in the clinical notes. In response to Mrs C's concerns regarding Mr A's family history, the Board explained that there was no formal record in the clinical notes that Mr A was asked about his family history, however, a positive family history for angina in isolation would not make a patient high risk and the Board would normally only consider a family history of heart attack or sudden death as raising the risk to a patient. Family history also had to be taken in the context of the patient's presenting complaint and other clinical findings. The Board went on to state that a review by a consultant in emergency medicine confirmed that Mr A was genuinely low risk when he presented on 25 January 2008, as there were no features during Mr A's initial assessment which would have instructed a referral to a consultant cardiologist and the risks of interventional investigations would have outweighed the benefits.

10. Mrs C remained unhappy and raised her complaint with the Ombudsman. She raised concerns that the ECG performed by the ambulance crew did not appear to have been read or seen by the Doctor and that, apart from an ECG, no other investigations were undertaken on Mr A when he arrived at the Hospital. Mrs C felt that the Hospital had not followed the SIGN guidelines for

assessing patients at cardiovascular risk, by failing to consider that Mr A was a 41-year-old male who had a family history of angina and high cholesterol.

The Adviser's opinion and the Board's response

11. The Adviser indicated that she would have expected the Doctor to view the ambulance ECG and compare it with the Department ECG. There was no evidence from the clinical notes of Mr A's admission to suggest that the ambulance ECG was viewed by the Doctor.

12. The Adviser has considered both the ambulance ECG and the Department ECG. The Adviser has explained that the Department ECG showed a normal rhythm and there were no definite changes suggestive of cardiac cause for pain. The ambulance ECG, however, differed from the one taken in the Department. The features were not definitively diagnostic but there were some wave changes. The fact that the ECG changed between the two recordings would raise concerns that there was a possible cardiac cause for the chest pain and would have warranted ongoing monitoring.

13. In response to the Adviser's comments and my investigator's further enquiries, the Board acknowledged that there was no documentation regarding the ambulance ECG in the clinical notes to indicate that the ECG was available or checked and, therefore, it could only be assumed that it was not referred to by the Doctor. The Board explained that, if an ECG were recorded it would be available at the point of handover and should be checked by the triage nurse. Since nothing was documented in the notes about the ECG being available or checked, the Board had, therefore, assumed that this ECG was not available or checked by the Doctor.

14. The Board have advised that, since this complaint, they have initiated a system where ECGs are signed by the person checking them and all ECGs are reviewed by a member of medical staff. The Board explained that the Department had introduced and emphasised on many different occasions the requirement to review ECGs in a timely fashion; to comment on the findings; and to sign and time the ECGs to ensure that they have been reviewed and that there was an audit trail regarding this. This should extend to ambulance crew ECGs but sometimes this did not happen. It was an area that they were keen to continue emphasising and were looking to improve the system surrounding ECG sign-off. In this case, the ambulance ECG provided to my investigator was unsigned and untimed.

15. In her complaint to this office, Mrs C referred to SIGN guidelines as she felt that they had not been adequately followed by the Board. She also referred to the corresponding 'ASSIGN' scoring system, which can estimate the risk of developing heart disease and takes account of various factors, like family history, age, etc. The Adviser has explained to me that the ASSIGN system was not relevant in this case as it was aimed at providing a risk assessment of individuals in the general population to ensure preventative treatment in patients at identified risk of cardiovascular events.

16. The Adviser has explained that the SIGN guidelines on management of acute coronary syndromes cover the investigations necessary in cases of possible cardiac chest pain. The Board also have a local protocol for the management of potentially ischaemic (heart related) chest pain for patients presenting in the Department (the Local Protocol). The Board have explained that the Local Protocol would only apply if the attending clinician has a strong enough suspicion of ischaemic chest pain to refer to the Local Protocol. The Adviser has had sight of the Local Protocol and relevant SIGN guideline.

17. The Adviser has indicated to me that the SIGN guideline and Local Protocol would only apply when the presenting patient may be or could be suffering cardiac pain. Following review of the records, the Adviser has noted that the Doctor made a firm diagnosis that Mr A had indigestion. The Adviser has indicated that, based on the fact that the pain was intermittent (fluctuating between 5/10 and 0/10 in intensity), in association with low risk factors, no previous history and a normal ECG, this diagnosis was reasonable. The Adviser has indicated that there was a firm diagnosis of non-cardiac pain (indigestion) and this diagnosis was reasonable, based upon the documented history and examination findings. Therefore, the Adviser has concluded that the decision not to apply the SIGN guideline and Local Protocol was not unreasonable and the further investigations which would have resulted from their application were not mandatory. The Adviser has indicated that the lack of documentation of family history in Mr A's records was a clinical omission in the history but, in the absence of other pointers to cardiac pain, this would not in itself have altered the diagnosis.

18. The Adviser has also noted that there is no guarantee that further tests or observations on 25 January 2008, or afterwards, would have revealed the underlying coronary heart disease, as it would not have caused abnormalities in

the blood or subsequent ECGs unless there had been some actual damage to the heart muscle at that time. As there was a full recovery and a period of normality between the 25 January 2008 and the sudden death of Mr A, it cannot be proven that the chest pain was attributable to heart disease.

(a) Conclusion

19. The Adviser has explained that there is no evidence to suggest that the Doctor who assessed Mr A on 25 January 2008 had viewed the ambulance ECG and compared it with the Department ECG. The Board have explained that there is no documentation in the notes about the ambulance ECG being available or checked and, therefore, the assumption is that the ambulance ECG was not referred to by the Doctor. Consequently, I have concluded, on balance, that the ECG performed by the ambulance crew was not available to or checked by the Doctor. It is clear that there was a breakdown in communication – both verbally and in passing the physical copy of the ambulance ECG to the Doctor to be reviewed. It is my understanding from the Adviser that, had the ambulance ECG been considered, the differences between it and the Department ECG should have raised concerns that there was a possible cardiac cause for Mr A's chest pain. It is clear to me that the failure to consider the ambulance ECG meant that the Board failed to pick up on the possibility that the chest pain Mr A experienced was cardiac in nature.

20. Therefore, I uphold this complaint.

21. The Board have explained that they have introduced and emphasised in the Department on many occasions the requirement to review ECGs in a timely fashion; comment on any findings; and sign and time the ECGs to ensure that they have been reviewed and there is an audit trail of this. Unfortunately, this did not happen in this particular case.

(a) Recommendations

22. I recommend that the Board:

(i) review their current communication methods between ambulance staff and clinical staff (both verbally and documentary) in respect of patients who are admitted to the Department; and

(ii) remind clinical staff of the importance of ensuring that all ECGs are available for review by clinical staff for patients presenting with chest pain; that their findings are documented in the patient's clinical records; and the Board's audit procedures in relation to ECG sign off are followed.

(b) Conclusion

23. Bearing in mind the conclusion to head of complaint (a), that the ambulance ECG was not available to or checked by the Doctor (see paragraph 19), I consider that I can only assess this head of complaint based on the action taken by the Doctor only having had sight of the Department ECG.

24. It is my understanding from the Adviser that a patient's management under the SIGN guidelines and Local Protocol is dependent on the assessment of the risk of a particular episode of chest pain being of possible cardiac origin. The Adviser has reviewed the records and has concluded that there was a firm diagnosis of non-cardiac pain (indigestion) and this diagnosis was reasonable, based upon the documented history and examination findings. Therefore, the decision not to apply the SIGN guideline and Local Protocol to Mr A was not unreasonable and the further investigations which would have resulted from their application were not required.

25. Therefore, I do not uphold this complaint.

26. The Adviser has also indicated that the lack of documentation in Mr A's clinical records of family history was a clinical omission, although this would not, in itself, have altered the diagnosis.

(b) Recommendation

27. Although I do not uphold this complaint, I recommend that the Board remind staff of the importance of seeking details of any family history of heart problems from patients presenting with chest pain and documenting this in the clinical records.

General recommendation

28. I recommend that the Board apologise to Mrs C for the failings identified in this report.

29. The Board have accepted the recommendations and will act on them accordingly. The Ombudsman asks that the Board notify him when the recommendations have been implemented.

Annex 1

Explanation of abbreviations used

Mrs C	The complainant
The Board	Lothian NHS Board
Mr A	Mrs C's son
The Hospital	The Royal Infirmary of Edinburgh
The Department	The Accident and Emergency Department
ECG	Electrocardiogram
The Doctor	The Accident and Emergency Department doctor who attended Mr A
SIGN	Scottish Intercollegiate Guidelines Network
The Adviser	One of the Ombudsman's medical advisers
The Department ECG	The ECG performed in the Department
The Local Protocol	The Board's local protocol 'The management of potentially ischaemic chest pain in the ED/PAA'