Scottish Parliament Region: South of Scotland

Case 201001871: Ayrshire and Arran NHS Board

Summary of Investigation

Category

Health: Hospitals; Paediatrics; clinical treatment; diagnosis

Overview

An MP (Mr C) complained on behalf of the aggrieved (Mr D and Ms B) that out-of-hours doctors employed by Ayrshire and Arran NHS Board (the Board) endangered their infant son (Baby A)'s life by failing, on a number of occasions, to diagnose his twisted bowel.

Specific complaint and conclusion

The complaint which has been investigated is that the Board's diagnosis of Baby A's twisted bowel was unnecessarily delayed (*upheld*).

Redress and recommendations

The Ombudsman recommends that the Board:	*Completion date*
(i) provide training to General Practice and midwifery staff in their area on the assessment and treatment of neonates with bilious vomiting; and	31 October 2011
(ii) apologise to Mr D and Ms B for the failings identified in this report.	31 October 2011

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

Main Investigation Report

Introduction

1. The aggrieved (Mr D and Ms B), had a child (Baby A), on 23 June 2010. At seven days old, Baby A became ill. Mr D and Ms B contacted NHS 24 on 30 June 2010, explaining that Baby A was vomiting blood and bile. They were given an appointment the same day with an on-call doctor (Doctor 1), who raised no concerns over Baby A's condition. Over the following days, Baby A continued to vomit after each feed. He was examined by the Community Midwife (the Midwife) on 3 July 2010. She also found no cause for concern. Mr D and Ms B, however, remained concerned and contacted NHS 24 again later the same day. Baby A was examined by a second on-call doctor (Doctor 2), who again was unconcerned by his condition.

2. After monitoring his condition for a further four hours, Mr D and Ms B took Baby A to the Accident and Emergency department (A&E) at Crosshouse Hospital (Hospital 1). He was seen by a paediatrician (Consultant 1), who was concerned by his now persistent vomiting. Tests were carried out and Baby A was transferred by helicopter to Yorkhill Hospital (Hospital 2) for an operation on his bowel, which was twisted.

3. Mr D and Ms B complained to Ayrshire and Arran NHS Board (the Board) through their MP (Mr C) that Doctor 1, Doctor 2 and the Midwife all failed to identify the seriousness of Baby A's condition. They felt that his twisted bowel could have been diagnosed earlier, and that failure to make this diagnosis put his life at risk. Dissatisfied with the Board's response to their complaint, Mr C brought Mr D and Ms B's complaint to the Ombudsman in August 2010.

4. The complaint from Mr C which I have investigated is that the Board's diagnosis of Baby A's twisted bowel was unnecessarily delayed.

Investigation

5. In order to investigate this complaint, my complaints reviewer reviewed all of the correspondence between Mr D, Mr C and the Board. He also reviewed meeting notes and the Board's internal correspondence relating to the complaint. My complaints reviewer sought additional comments from the Board and from Mr D and Ms B, and professional advice from my medical adviser (the Adviser).

6. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. Mr C, Mr D and Ms B, and the Board were given an opportunity to comment on a draft of this report.

Complaint: The Board's diagnosis of Baby A's twisted bowel was unnecessarily delayed

7. Baby A was born on 23 June 2010. His parents, Mr D and Ms B, said that on 30 June 2010 he started vomiting bile and blood. They contacted NHS 24 and were given an appointment with the NHS Ayrshire Doctor on Call (ADOC) at 23:20 the same evening. NHS 24's records for the call state:

> 'Blood in mucous for 10mins and no breathing concerns, no fever, having wet/dirty nappies, taking feeds, brought up thick green? mucous not dark green. Noticed small amount of blood. No sores in baby's mouth.'

8. At the ADOC appointment, Baby A was examined by a doctor (Doctor 1). Mr D and Ms B reportedly drew Doctor 1's attention to the bile and blood in Baby A's vomit, but told my complaints reviewer that he questioned how they knew it was blood. Doctor 1's records for the examination state:

> 'Child looks well, alert and responding normally, examination of ear nose and throat all normal, chest clear. No signs of dehydration abdo [abdomen] soft temp normal tiny quantities of possible blood. Diagnosis parental concern well baby.'

9. Mr D and Ms B told my complaints reviewer that they were not happy with Doctor 1's diagnosis. However, they felt that they had no choice but to accept his opinion and continue to monitor Baby A's condition over the following days.

10. Doctor 1 provided a further statement as part of the Board's investigation into Mr C's complaint. He said:

> 'His parents reported [Baby A] was continuing to feed, moving his bowels and passing urine. They had brought with them a white cloth with a moist stain approximately 1.5cm across. It appeared to be clear fluid with a streak/trace of darker fluid on the cloth. They were concerned that this was blood. I was not clear what the darker fluid was but asked his parents what made them think it was blood and wondered about any confirmatory injuries but could find no evidence of injury. I could not come to a conclusion about the darker fluid but felt that the appearances on the cloth suggested posseting [repeated regurgitation of milk after feeding].'

11. Mr D spoke to the Board's Health Care Manager (Officer 1), following receipt of their response to his formal complaint. The complaint response included Doctor 1's comments and Mr D said that he was unhappy with the reference to being unable to find any evidence of injury, as Baby A had been in his car seat throughout the examination. In a subsequent statement, Doctor 1 clarified that his comment referred to Mr D and Ms B's reports of blood coming from Baby A's mouth. He had examined Baby A's nose and frenulum (the fold of tissue that restricts the movement of a mobile organ, for example under the tongue, or between the upper lip and gums) but found no evidence of injury. He commented that the examination of young children is often opportunistic and best done with the child's co-operation. He noted that Baby A was lying in a semi-recumbent position in the car seat and was very co-operative, so he was happy to examine him in those circumstances.

12. The Midwife made two routine visits to Baby A; on 1 July 2010 and on 3 July 2010. She provided a detailed statement to the Board describing the examinations that she carried out and her findings. With regard to her first examination on 1 July 2010, she said:

> '[Ms B] showed me the shawl with the vomit on it that she had taken to the ADOC the previous night. There was a large milk vomit with a small spot of dark blood on it, I did not see any evidence of bile on the shawl. I carried out a baby examination … I reassured [Ms B] that the spot of blood could easily be from a small burst blood vessel at the back of the baby's nose as the mucous membranes are very delicate and the vomit can easily come down its nose causing this mild trauma resulting in a small spot of blood to be noted in a baby's vomit … We discussed his feeding and the frequency of her winding him and I advised her that she should wind her son prior to feeding and frequently during his feeds …'

13. With regard to her second examination on 3 July 2010, the Midwife stated:

> '… mum was concerned as the baby had just brought up a mouthful of bile onto his bib. She showed me the bib which had two small possets of bile on it. The baby had not recently been fed and was lying awake in his mother's arms. As far as I was aware this was the first time there had been bile in his vomit and no mention of it being projectile was made by the parents. I took the baby from mum and proceeded to undertake an examination … he appeared well, settled and displayed no obvious discomfort when handled. All my findings were within normal parameters and abdominal palpation [examination by touch] elicited a soft non-tender

abdomen with no distension seen. I discussed my findings with [Ms B] and that I was not too concerned with her baby's condition as it is normal for babies to vomit and because of the length of time since her son's last feed and he had been sick after that last feed I did not think it was unusual for her baby to vomit a mouthful of bile as this would be the only thing left in his stomach … I explained in full with [Ms B] why I was happy with the baby at this particular moment but reiterated that if his condition changed or she was still not happy with her son then she could again take him back to the ADOC, as this was Saturday and her GP surgery would be closed.'

14. After the Midwife left on 3 July 2010, Mr D and Ms B telephoned NHS 24 again and were offered a second ADOC appointment at 13:10 that afternoon. Baby A was examined by a different doctor (Doctor 2). Mr D said that Baby A was vomiting bile during the examination. However, Doctor 2 told him and Ms B that he was '100 percent fine'. Doctor 2's notes, recorded after the examination, state:

'History: 10 days old baby, parents tell it would vomiting after any bottle feeding yellow, no D [diarrhoea], no fever, no rash. Examination: no signs of dehydration child looks well, alert and responding normally, examination of ear nose and throat all normal, chest clear. Yellow mucus in mouth. Diagnosis: Normal healthy child. Treatment: Parent reassured, frequently feeding of small amounts every 2 hours.'

15. Doctor 2 also provided a statement in response to Mr D and Ms B's complaint. She said:

'The parents told me that [Baby A] was vomiting and bringing up bile with traces of blood for a couple of days … The parents described the vomiting as green and the baby had opened his bowels once in the previous day, he was not feverish. The description of the vomiting given to me did not suggest that it was projectile. During the medical examination the response of the baby was normal, there were no signs of dehydration or jaundice. The examination of ear, nose, throat and chest was normal, the abdomen soft, no masses, bowel movements all normal. Then during the examination the baby vomited once. The vomitus was yellow in colour and no traces of blood. It was not projectile. The vomiting of yellow coloured vomitus is very common and not unusual. It is not automatically a symptom for a serious illness. The baby appeared well to me. There were no signs of a life threatening situation at this time …'

16. The Board's records show that, during his telephone conversation with Officer 1, Mr D stated categorically that Baby A was projectile vomiting 'right across the room' and that the vomit 'completely covered a beach towel'. Mr D said that this was witnessed by the Midwife and Doctor 2.

17. Mr D and Ms B continued to monitor Baby A's condition after Doctor 2's examination and told my complaints reviewer that he continued to vomit bile. In their complaint to the Ombudsman, they stated that he was projectile vomiting. Concerned about his condition, they took him to A&E at Hospital 1 at around 18:35 on 3 July 2010. A&E staff arranged for an abdominal x-ray and referral to Paediatrics. The x-ray report stated 'Normal heart, lungs and mediastinal contours [referring to the area between the lungs]. No air underneath the diaphragms. There is no evidence of any bowel obstruction or perforation. There is a paucity [less than normal amount] of bowel gas in the right flank'. The A&E nursing records note Baby A's two to three day history of vomiting and that he was 'vomiting bile in triage effortlessly'.

18. Baby A was seen by Consultant 1 in the Paediatric department. Baby A's history was obtained from Mr D and Ms B prior to this consultation. It was noted that he had reportedly begun projectile vomiting that day and that he was also non-projectile vomiting. It was noted that Baby A had been feeding regularly but was not vomiting his milk. Following examination of Baby A and review of the x-ray results, Consultant 1 suspected a bowel obstruction. He arranged for Baby A to be transferred to Hospital 2 for surgery. Baby A was transferred by helicopter as the Paediatric Transfer Team were already on board on their way back from Oban, making it convenient to return to Hospital 2 via Hospital 1.

19. Upon arrival at Hospital 2 at around 02:20 on 4 July 2010, Baby A was documented as being pink and very lively with a vigorous cry and normal muscle tone. His abdomen was not tender but it was recorded that he had a visible fullness in his upper abdomen. This was also apparent upon palpation. He was passed in to the care of a Consultant Paediatric Surgeon (Consultant 2), who ordered an upper GI contrast (a fluoroscopic x-ray examination). This showed that Baby A had malrotation (failure of the bowel to settle in its correct position after birth) with a volvulus (twisted bowel). Baby A was taken into surgery at 05:35, where Consultant 2 was able to correct the condition without any damage to Baby A's bowel.

20. Consultant 2 told my complaints reviewer that, upon arrival at Hospital 2, Baby A's general condition was 'quite satisfactory'. However, his underlying surgical condition was 'very significant'. He explained that this surgical condition is 'very rare and can only really be diagnosed by doing specific contrast x-rays and action taken accordingly'.

21. Mr D and Ms B complained that Baby A was not referred for hospital treatment earlier following examinations by Doctor 1 and Doctor 2. They felt that the ADOC doctors should have realised the severity of Baby A's condition.

22. In their response to Mr C's complaint, the Board concluded that Baby A had been developing a significant surgical problem, but that his general condition remained good and there were no detectable abnormalities which ought to have led to his being referred to hospital by Doctor 1, Doctor 2, or the Midwife. They noted that a patient's condition can change through time and explained that infants present a particular challenge, as their general condition can deteriorate very quickly. The Board did not consider there to be any clinical signs present during Baby A's four examinations which should have led to a decision to refer him to hospital.

23. My complaints reviewer asked my GP adviser (the Adviser) to review Mr D and Ms B's complaint. He asked the Adviser whether, based on Baby A's presenting symptoms, the examinations carried out by Doctor 1, Doctor 2 and the Midwife, and the conclusions they reached, were reasonable. The Adviser acknowledged the views of the ADOC doctors, that vomiting was a common presentation in children. He accepted this, however, he said that vomiting in a neonate (newborn up to the age of 28 days) was a different matter and should be regarded as a serious symptom. He explained that bilious vomiting (vomiting bile) in neonates was a significant symptom and classic teaching, confirmed by recent studies, suggested that surgical causes accounted for one in three cases. He noted that confirming whether bile was present in the vomit can often be problematic, so information provided by family members is vital.

24. The Adviser referred to the findings of a study published in the *Journal of Paediatric Surgery (2002) Volume 37(6)*, which noted that a surgical cause of bilious vomiting was found in 24 out of 63 recorded cases. In four of those cases, malrotation with a volvulus was found to be the cause of the vomiting. The article commended the maxim 'bilious vomiting in the newborn should be attributed to intestinal obstruction until proven otherwise'. The Adviser also

drew my complaints reviewer's attention to the American Association of Family Practice Journal (1 May 2000), which states that bilious vomiting in neonates is a surgical emergency that requires further investigation, and the *Textbook of Paediatric Emergency Medicine*, chapter 26.1 of which states 'bilious vomiting is an ominous sign that mandates further information'.

25. The Adviser felt that the notes recorded by Doctor 1 were reasonable, however, he expressed concern that Baby A was not removed from his car seat for a full examination with clothing removed. Accordingly, he had concerns regarding the thoroughness of Doctor 1's examination.

26. The Adviser was satisfied with the examinations carried out by the Midwife. However, he raised further concern over Doctor 2's examination. He noted that Doctor 2's record of the examination made no mention of an abdominal examination. Whilst this was described in her subsequent statement, the Adviser was concerned by the lack of any contemporaneous record of an abdominal examination.

27. With reference to Consultant 2's comments regarding the need for x-rays to diagnose Baby A's condition, my complaints reviewer asked the Adviser whether scans or x-rays could have been arranged by Doctor 1 or Doctor 2, prior to Mr D and Ms B taking Baby A to Hospital 1. The Adviser said that referral to a Paediatrician was the correct course of action for further assessment, particularly on 3 July 2010, as by that time symptoms had persisted and bilious vomiting was confirmed by direct observation. The Adviser shared Consultant 2's view that a definitive diagnosis could only be made by carrying out contrast x-rays, however, he explained that Baby A's symptoms and their duration should have pointed to the need for further hospital assessment.

28. The Adviser commented on the Board's view that Baby A had a developing condition and was effectively more unwell by the time he reached Hospital 1, than he had been when examined by Doctor 2. He explained that examination findings are difficult in newborn babies and it was entirely possible that Baby A's condition changed between the ADOC examinations and his arrival at Hospital 1. The clinical records showed that Baby A's symptoms were undoubtedly more prominent on the evening of 3 July 2010, but the Adviser disagreed with the Board's view that there was no indication that earlier referral

to hospital was required, on the basis that bile in the vomit of a neonate can be an early indicator of serious underlying conditions and should be investigated.

Conclusion

29. With the benefit of hindsight, we know that Baby A had a very serious condition which required hospital admission and surgery. In this regard, Mr D and Ms B's decision to take Baby A to A&E was entirely warranted. The crucial issue for consideration in this complaint is whether Doctor 1, Doctor 2 or the Midwife could, or should, have identified that Baby A's vomiting was indicative of a more serious underlying problem and, therefore, whether they should have referred him for hospital treatment.

30. Mr D was very clear in his correspondence and subsequent conversation with Officer 1 that Baby A was projectile vomiting. I have no reason to doubt his recollection of events. That said, contemporaneous notes recorded by NHS 24, Doctor 1 and Doctor 2 make no mention of projectile vomiting. Doctor 2 and the Midwife also specifically commented in their additional statements that they did not witness projectile vomiting. The first recorded acknowledgement of projectile vomiting is found in the presenting history obtained prior to Consultant 1's examination of Baby A. I would expect such a significant symptom to be recorded in the clinical records.

31. Up to the point of transfer to Hospital 2, all parties examining Baby A recorded that his general condition was good and that his abdomen was normal. Upon arrival at Hospital 2, he was again found to be generally well. However, his abdomen was distended in a manner not previously recorded. I consider that this indicates that Baby A's symptoms were becoming progressively worse as his condition developed.

32. Prior to Mr D and Ms B taking him to Hospital 1 on 3 July 2010, Baby A was examined on four separate occasions, with his parents providing details of his history of vomiting. I acknowledge that Mr D and Ms B reportedly told Doctor 1 on 1 July 2010 that Baby A had been vomiting bile, however, I note that this was not recorded by Doctor 1 in his records or in his subsequent statement.

33. I accept the Adviser's opinion that the presence of bile in the vomit should have been taken as a possible indication of a more serious underlying problem. I do not consider there to be sufficient evidence to conclude that Doctor 1

should have referred Baby A to a Paediatrician on 1 July 2010. Evidence of bile was found during the Midwife's second examination. I would expect the Midwife to refer medical issues to a GP and note that she advised Ms B that she could contact an ADOC again should Baby A's condition change or if they were still not happy with his condition. Mr D and Ms B contacted the ADOC service shortly after the Midwife's visit.

34. Doctor 2's statement in response to Mr D and Ms B's complaint indicates that she was aware of the presence of bile in Baby A's vomit on 3 July 2010, the persistence of his symptoms and the history provided by Mr D and Ms B. I consider that Doctor 2 could, and should, have made arrangements for further diagnostic testing. Whilst Baby A was ultimately admitted to Hospital 1 within hours of Doctor 2's examination, this was as a result of action taken by Mr D and Ms B. I found that, had they not taken this action, Doctor 2's failure to refer Baby A to a paediatrician would have delayed the diagnosis and treatment of his serious surgical condition. As such, I uphold this complaint.

Recommendations

35. I recommend that the Board:	*Completion date*
(i) provide training to General Practice and midwifery staff in their area on the assessment and treatment of neonates with bilious vomiting; and	31 October 2011
(ii) apologise to Mr D and Ms B for the failings identified in this report.	31 October 2011

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

Annex 1

Explanation of abbreviations used

Mr D and Ms B	The aggrieved
Baby A	Mr D and Ms B's son
Doctor 1	An on-call doctor for the Board
The Midwife	A community midwife for the Board
Doctor 2	An on-call doctor for the Board
A&E	Accident and Emergency department
Hospital 1	Crosshouse Hospital
Consultant 1	A Paediatrician at Hospital 1
Hospital 2	Yorkhill Hospital
The Board	Ayrshire and Arran NHS Board
Mr C	A Member of Parliament, complaining on behalf of the aggrieved
The Adviser	The Ombudsman's General Practice Adviser
ADOC	NHS Ayrshire Doctor on Call
Officer 1	The Board's Health Care Manager
Consultant 2	A Consultant Paediatric Surgeon at Hospital 2

Annex 2

Glossary of terms

Bilious vomiting	Vomiting bile
Frenulum	The fold of tissue that restrict the movement of a mobile organ, for example under the tongue, or between the upper lip and gums
Malrotation	Failure of the bowel to settle in its correct position after birth
Mediastinal	Referring to the area between the lungs
Neonate	Newborn baby
Palpation	Examination by touch
Paucity	Less than the normal amount
Posseting	Repeated regurgitation of milk after feeding
Upper GI contrast	A fluoroscopic x-ray
Volvulus	Twisted bowel

Annex 3

List of references

Godhol P and Stringer PD – Journal of Paediatric Surgery (2002) Vol 37(6)

American Association of Family Practitioners 01 May 2000 – Bilious vomiting in the newborn: Rapid diagnosis of intestinal obstruction

Cameron and Jelenick (2006) – Textbook of Paediatric Emergency Medicine