

Case 200500466: Greater Glasgow and Clyde NHS Board¹

Summary of Investigation

Category

Health: Hospitals, clinical treatment

Overview

The complainant raised concerns about the care and treatment provided for his sister about three weeks before her sudden death and also about the adequacy of information provided before her discharge from hospital.

Specific complaints and conclusions

- (a) The care and treatment provided by the hospital was inadequate and may have led to the premature death of Ms C (*not upheld*)
- (b) The care and information provided following Ms C's operation were inadequate (*not upheld*)

Redress and recommendation

The Ombudsman has no recommendation to make.

Introduction

1. On 15 May 2005 the Ombudsman received a complaint from a man, referred to in this report as Mr C, about the care and treatment received by his late sister, Ms C, at the Southern General Hospital, Glasgow (the hospital) in August and September 2004. Ms C was admitted to the hospital on 26 August 2004 for a planned mastoid operation. She was discharged home on 28 August 2004. She

¹On 1 April 2006 the National Health Service (Variation of the Areas of Greater Glasgow and Highland Health Boards) (Scotland) Order 2006 added the area of Argyll and Bute Council to the area for which Highland Health Board is constituted and all other areas covered by Argyll and Clyde Health Board to the area for which Greater Glasgow Health Board is constituted. The same Order made provision for the transfer of the liabilities of Argyll and Clyde Health Board to Greater Glasgow Health Board (now known as Greater Glasgow and Clyde Health Board) and Highland Health Board. In this report, according to context, the term 'the Board' is used to refer to Greater Glasgow and Clyde Health Board as its successor. However, the recommendations within this report are directed towards Greater Glasgow and Clyde Health Board.

was due to have her stitches removed one week later and a follow-up appointment was also arranged for 20 September 2004. On 20 September 2004 Mr C found his sister dead at home. A post mortem examination report suggested Ms C's death was linked to her recent surgery.

Investigation

2. The investigation of this complaint involved obtaining and reading all the relevant documentation and medical records. I obtained advice from two clinical advisers, a Professor of Otolaryngology (Adviser 1) and a Consultant Forensic Pathologist (Adviser 2). I have set out below my findings of fact and conclusions. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. A list of abbreviations used in the report is given at Annex 1 and an explanation of the medical terms used is at Annex 2. Mr C and the Board have been given the opportunity to comment on a draft of the report.

(a) The care and treatment provided by the hospital was inadequate and may have led to the premature death of Ms C

3. On 29 March 2004 Ms C was seen at the Ear Nose and Throat (ENT) clinic at the hospital. The clinic letter sent to Ms C's general practitioner said:

'Ms [C] has been intermittently discharging from the right ear for the past 10 months. She also complains of itchiness and otalgia in the same ear. The hearing in the right ear has always been poor but this has gotten worse over the same period. She also feels that her left ear is starting to act up. She has had numerous courses of antibiotics with little effect. On examination she has a large attic perforation in the right ear which was moist. This most likely represents cholesteatoma. On the left side she has a small self cleaning retraction pocket. A puretone audiogram today shows poor hearing in both ears but it is much worse on the right side. We feel she would benefit from a right mastoid operation and I have placed her name on the waiting list for this to be done. In the meantime I have given her some Gentisone HC to use as and when necessary and will see back in the clinic for review.'

4. Ms C was admitted for surgery on 26 August 2004 and she was discharged home on 28 August 2004. Ms C was found dead at home on 20 September 2004.

Post mortem examination

5. A post mortem examination was instructed by the Procurator Fiscal. The pathologist reported the cause of death as 1) a cerebral abscess and acute purulent meningitis 2) mastoid ear surgery. The report included that cerebral abscesses and subsequent meningitis can occur due to haematogenous spread or from direct local spread, for example from the ear. The report included that given the history, the site of the abscess, and its approximate age (at least 10 to 14 days) it seemed most likely that Ms C's condition was linked to the recent surgery. The report said that an alternative source of infection could not be entirely ruled out but none was identified at post mortem examination.

History of the complaint

6. Mr C first raised concerns about his sister's care in October 2004 in correspondence with the Consultant Surgeon who performed Ms C's operation (the surgeon). On 15 February 2005, having seen the post mortem examination final report, Mr C went on to make a formal complaint to the hospital. Mr C said that his sister was allowed home after three days. She returned to the hospital a week or so later to have stitches removed. She was sent home even though she had complained to Mr C that she had been in great pain since the operation.

7. On 11 March 2005 the Board replied to Mr C explaining that brain abscesses and meningitis are rare but well documented complications of the condition cholesteatoma, the condition for which his sister had her mastoid operation. They said that the surgeon felt that the operation had been straightforward and had gone well. There had been no way to predict that Ms C would develop a brain abscess or meningitis. Mr C later met the surgeon to discuss his concerns but remained dissatisfied.

Complaint to the Ombudsman

8. Mr C complained to the Ombudsman that he was still none the wiser as to how his sister died particularly when, according to the surgeon, she died of complications of the very condition that the surgery was meant to prevent.

Comments from Adviser 1

9. Adviser 1 said that Ms C had a ten month history of a discharging ear and it was clear that there was an underlying cholesteatoma. Given the risks of

cholesteatoma and the difficulties of assessing the extent of the disease, even with modern imaging methods, surgery was an appropriate choice of treatment given the long term risks of cholesteatoma.

10. Adviser 1 said that the risks of mastoid surgery are much the same as the risks of untreated cholesteatoma, that is, there is a risk of (1) continuing discharge (2) worsened deafness (3) dizziness (4) a droopy face from facial nerve palsy and (5) death from intracranial complication. The incidence of the second, third and fourth complications is about 1% or less. The risk of intracranial complications is so low that it is very difficult to find any published reference to them.

11. Adviser 1 explained that the object of the surgery was to remove the disease to make the ear safe; to create a clean, dry ear; and to improve the hearing although this would be considered a bonus in the overall scheme of things.

12. At surgery the cholesteatoma was found to be limited to the roof of the middle ear. There was no note of any erosion of the roof of the middle ear or mastoid. This was, therefore, a small, very limited cholesteatoma that had not caused any bone destruction to the roof of the middle ear or local inflammation.

13. Adviser 1 said that this was confirmed at the post mortem examination by the absence of any finding of damage to the base of the skull by disease or from surgical trauma. That is, the post mortem report contained no comment about the state of the skull beneath the temporal lobe and so it must be assumed that it was intact since any damage would be clearly obvious at post mortem examination.

14. Adviser 1 said that given the incidence of intracranial complications from untreated mastoid disease; the absence of any signs of surgical trauma to the base of the skull; and the absence of any changes to the base of the skull caused by disease, the most probable cause of the abscess was the cholesteatoma, that is, preceding ear infections 'seeded' the abscess. He said that this was a very unusual and sad case but it appeared that the surgery itself did not result in the development of the abscess. There was no indication of any fault by the surgeon.

15. Adviser 1 commented that, in his view, it was very surprising that the post mortem report stated as a secondary cause of death 'mastoid surgery' as there

appeared to be no evidence to support this conclusion.

Comments from Adviser 2

16. Adviser 2 also commented on the fact that the post mortem examination report gave no description of the state of the operative site. She confirmed that during the course of a post mortem examination a clear view is obtained of the floor of the middle cranial fossa. Therefore, it seemed likely that if any defect caused either by surgical trauma or by erosion from the disease had been present it would have been noticed and commented on in the report. She agreed with Adviser 1 that it, therefore, had to be assumed that the bony plate between the middle ear and the overlying cranial cavity was intact.

17. Adviser 2 commented on the cerebral abscess dating mentioned in the post mortem report which stated that 'presence of granulation tissue and formation of a capsule would indicate that the abscess is at least 10 to 14 days old'. She said that does not mean that it may not be some days older. She explained that histological dating of tissue damage is not a precise science. There are numerous variables affecting tissue response. Therefore, while the microscopy findings of the abscess wall tended to suggest it occurred around the time of the operation, Adviser 2 did not believe it could be pinned down to an exact 10-14 day time frame.

18. Adviser 2 said that cerebral abscess formation can arise in several ways. The most common is direct spread from adjacent areas of infection. The most important cause would be chronic suppurative otitis media or mastoiditis, whereby the bone is eroded and the infection reaches the dura to produce infection within the cranial cavity or infection is spread via small blood vessels. The emergent veins from the bone drain into venous sinuses into which the veins of the brain also drain providing a possible route of infection. The other possible causes of cerebral abscess would be blood borne spread from other infected sites such as the lung. This did not appear to be present in this case as no other sites of infection were identified at post mortem examination. The other possibility was surgical trauma at the site of the mastoidectomy causing perforation of the floor of the right cranial fossa. This would create direct contact between the middle ear chamber and the brain cavity. This would have been obvious at post mortem examination. The fact that no comment was made about this finding in the post mortem examination

report would suggest it is unlikely to have been present.

19. Adviser 2 agreed with Adviser 1 that the most likely cause of the abscess was seeding of infection from the chronic suppurative otitis media. She said that the dating of the abscess tended to point to this seeding occurring around the time of the operation. Theoretically this could have been pre, intra or post-operative. Adviser 2 did not believe with the information available that the precise timing could be ascertained. However, she commented that there was no suggestion from the operation note that the operative site appeared infected at the time of surgery. There was no indication from the hospital notes of any pyrexia or discharge from the ear whilst it was being cleaned during the post-operative period. Adviser 2 considered that the most likely cause of the abscess was pre-operative seeding.

20. Adviser 2 also commented on the validity of the cause of death statement given in the post mortem examination report. She agreed that the main cause of death was cerebral abscess and acute purulent meningitis. However, she would not have placed 'mastoid ear surgery' under part 2 as this implied that the surgery was contributory in the death. There was no evidence to support this from the post mortem examination report. In her opinion it was not the mastoid ear surgery that contributed to the death but the mastoid ear disease (cholesteatoma and chronic suppurative otitis media).

21. Adviser 2 felt that the cause of death would have been better set out in the post mortem examination report as 1a cerebral abscess and acute purulent meningitis 1b mastoid ear disease (operated on) with a statement, in the comments section of the report, indicating that there was no evidence of any surgical error that would have contributed to the death.

(a) Conclusions

22. The Board explained to Mr C that the complications suffered by Ms C were rare but well documented complications of the condition cholesteatoma and they could not have been predicted following her operation and discharge from hospital. The post mortem report implied that the surgery contributed to Ms C's death. In these circumstances it is not surprising that Mr C was left unsure of what had led to his sister's sad death.

23. Adviser 1 and Adviser 2 agreed that the most likely origin of the brain abscess that developed, ruptured and caused the overwhelming meningitis that caused Ms C's death, was from it seeding some time before the surgery. In light of their advice, I accept that the surgery was in no way contributory to the death. The cause of death was a complication of the condition and had most likely begun before the surgery and developed over the following few weeks. I do not, therefore, uphold this complaint. However I hope that this report has provided further information and explanation that helps Mr C to understand the cause of the death of his sister.

(b) The care and information provided following Ms C's operation were inadequate

24. Mr C said that the lack of aftercare of his sister had appalled him. No member of Ms C's family had been advised to look out for these complications developing. Also Ms C was allowed home after having the stitches removed at the hospital despite being in great pain.

25. The ward round notes for 27 August 2004 record that Ms C was due to have follow-up in one week for removal of sutures. She was also to attend a clinic at the Victoria Infirmary on 20 September 2004.

26. The nursing notes on 28 August 2004 record:

'Follow up appointment for 20 September 2004 to remove packing. [Removal of sutures] at GP next Thursday – patient to make appointment...'

27. There is no record in the hospital or GP notes of the stitches being removed.

28. The Board said that there had been no reason to think that there may be any increased risk of unusual or serious complications in Ms C's case. There had been no reason to advise her not to stay alone following discharge from hospital.

29. Adviser 1 commented that Ms C does not appear to have been discharged from the hospital too early. He said that most patients undergoing this sort of surgery go home the next day. Ms C stayed another night and on the day of discharge the nursing notes indicate that all her observations were normal and that

she was well. It was unclear whether the sutures were removed at the GP Practice or at the hospital. He said that the recording of sutures being removed is not a common occurrence at hospitals since the notes have nearly always been taken away by the hospital administration for coding purposes. Normally nurses would only record the removal of sutures if there was something wrong with the wound such as a stitch abscess. In that case the hospital doctor or GP would be called to examine this. Adviser 1 emphasised that the relationship between any problems with the wound and the brain abscess would be so tenuous as to be at the edge of belief.

(b) Conclusions

30. I am satisfied, given Adviser 1's comments, that it was not necessary and would not have been appropriate to provide advice to Ms C or her family, following her surgery, of the possibility of the complications which she subsequently suffered. That is because the likelihood of a cerebral abscess and meningitis developing as a result of the surgery were minute; and the risk of these complications developing as a result of the disease were rare and could not be predicted.

31. Mr C was also concerned that the removal of the stitches was not recorded and he was concerned too that his sister was sent home after removal of the stitches despite complaining to him of great pain after the operation. Adviser 1 had said that removal of stitches is not normally recorded unless there is a problem. While I note that advice I am also aware that views vary on how far it is appropriate to record what might be described as negative findings. Some clinicians might take the view that in this case the removal of the stitches should have been recorded and a note made of whether or not the wound was clean and healthy. Having said that, I accept Adviser 1's advice that the relationship between any problems with the wound and the brain abscess would be so tenuous as to be 'on the edge of belief'. I do not uphold this aspect of the complaint.

Summary

Specific complaints and conclusion

- (a) The care and treatment provided by the hospital was inadequate and may have led to the premature death of Ms C (*not upheld*)
- (b) The care and information provided following Ms C's operation were inadequate (*not upheld*)

Redress and recommendation

The Ombudsman has no recommendation to make.

25 July 2006

Explanation of abbreviations used

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|--------------|---|
| Mr C | The complainant |
| Ms C | The complainant's late sister |
| The surgeon | The Consultant Surgeon who performed Ms C's operation |
| Adviser 1 | A Professor of Otolaryngology |
| Adviser 2 | A Consultant Forensic Pathologist |
| The hospital | Southern General Hospital, Glasgow |
| The Board | Greater Glasgow and Clyde NHS Board |
| ENT clinic | Ear, Nose and Throat Clinic |

Glossary of terms

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| Attic perforation | Perforation in the upper spaces of the middle ear which connect with the air-filled spaces of the mastoid. |
| Cholesteatoma | A disease whereby skin from the eardrum finds its way into the air-filled spaces of the middle ear and mastoid and continues to grow and expand into those spaces. After a while damage to the surrounding structures takes place because of erosion by the growing edge of skin. |
| Cranial fossa | <p>The space inside the skull is separated into three major compartments. The three compartments are the anterior, middle and posterior cranial fossae.</p> <p>The floor of the middle cranial fossa forms the roof of the mastoid and middle ear</p> |
| Dura | <p>The brain is covered by a series of membranes that support and protect it. The dura mater is the outermost layer and is attached more or less firmly to the inside of the skull. It is extremely tough and forms a barrier to infection from outside.</p> <p>The next layer is in the arachnoid which is a fine mesh-work connecting the dura to the pia mater, a thin covering closely attached to the surface of the brain.</p> |

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| Gentisone HC | Antibiotic and steroid eardrops. |
| Haematogenous spread | Bacteria in the blood from a distant site. |
| Histological examination | Examination by microscope. |
| Mastoid | The mastoid bone lies behind the ear canal and middle ear and contains air filled spaces that are connected with the middle ear. The roof of the mastoid bone – the tegmen – forms the floor of the floor of the middle cranial fossa. |
| Mastoidectomy/mastoid operation | A surgical procedure to explore the mastoid bone. |
| Otalgia | Pain. |
| Otitis media | Inflammation of the middle ear. |
| Puretone audiogram | A hearing test to determine the quietest sound levels. |
| Purulent meningitis | Infected inflammation of the membranes surrounding the brain. |
| Pyrexia | Fever. |
| Retraction pocket | A small pocket in the ear drum produced by negative pressure in the Eustachian tube. |
| Temporal lobe | Area of the brain that lies directly above the right middle ear and mastoid area and is separated from it by a bony plate that makes up the floor of the right cranial fossa. |

Venous sinuses

Large closed spaces into which venous deoxygenated blood from the veins, in this case on the surface of the brain, is channelled prior to being conducted back to the heart for oxygenation.