5. Anaesthesia

The anaesthetist >> Volume of cases done by anaesthetists

Volume of cases done by anaesthetists

In 49% of cases the anaesthetist could not calculate the number of the anaesthetics they had given for aortic surgery from a logbook or information system.

One in five (22%) elective patients were cared for by anaesthetists who performed five or fewer elective aneurysm repairs in 2002/03.

Three out of five (61%) emergency patients were cared for by anaesthetists who performed five or fewer emergency aneurysm repairs in 2002/03.

The most senior anaesthetist present was asked to supply the number of anaesthetics for elective AAA repairs administered in 2002/03 and the source of that information. Figure 3 gives the number where the answer was taken from a logbook or other information system, and the number where the answer depended on memory.

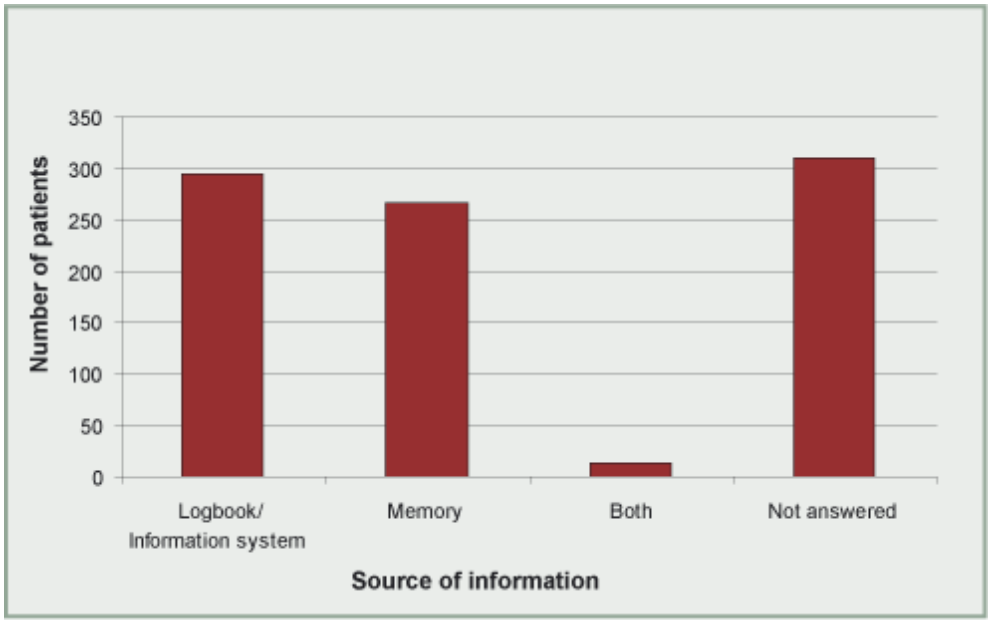

Figure 3. Source of information about the most senior anaesthetist involved in the operation
n=805

Of the 575 answers to this question, 295 (51%) reported using a logbook or information system alone rather than using their memory completely or in part. The question was unanswered in 309 cases.

Anaesthetists who were involved in more than one case in this study may have answered this question more than once, but it is surprising that in only a half of the cases anaesthetists could provide accurate data on their work. Logbook information is important for appraisal and for demonstrating competence in this and other specialised branches of anaesthesia.

Elective operations

The most senior anaesthetist present at elective open operations was asked to supply the number

of anaesthetics for elective AAA repairs they administered from April 2002 to March 2003. In 88 cases anaesthetists reported that the number of anaesthetics given for elective aneurysm repair in 2002/03 was 'Unknown'. 58 questionnaires failed to supply any answer.

288 questionnaires supplied a figure for the number of elective AAA repairs carried out in 2002/03 by the anaesthetist caring for that patient. Figure 4 gives the range of responses. Some anaesthetists may have been involved in more than one case.

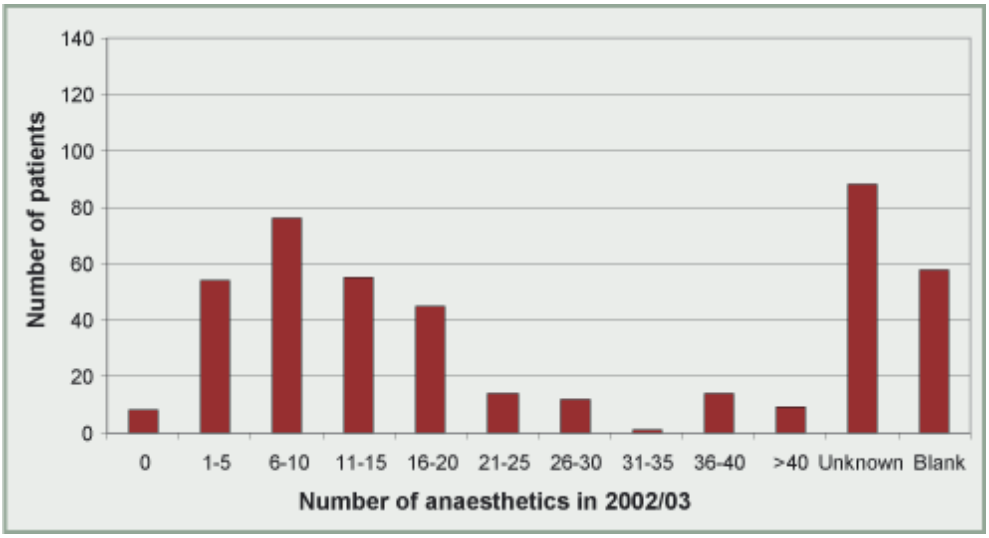

Figure 4. Number of anaesthetics for elective open AAA repair performed by most senior anaesthetist in 2002/03 *n=434*

48% (138/288) of the patients in this study anaesthetised for elective open AAA repair were cared for by anaesthetists who reported doing 10 or fewer elective aneurysm repairs in the year 2002/03, or less than one a month. 22% (62/288) of patients were cared for by anaesthetists who performed five or fewer a year. Is this level of experience of anaesthesia for aortic surgery acceptable?

It has been suggested that anaesthetists who undertake more vascular anaesthetics may be associated with patients who have a better outcome. NCEPOD has examined whether the data available to NCEPOD can be of use in examining this suggestion. The cases were allocated into two groups according to whether the most senior anaesthetist present reported doing more anaesthetics in 2002/03 than the median (high volume group) or fewer anaesthetics (low volume). The total number of patients who died before 30 days and who survived to 30 days were then calculated for each group. Table 13 shows the results of this analysis.

Table 13. Outcome of open AAA repair by number of anaesthetics for elective AAA repair given in 2002/03

	Low volume	%	High volume	%	Unknown	Total
Died within 30 days	13	9	6	4	8	**27**
Alive at 30 days	132		136		137	**405**
Sub-total	**145**		**142**		**145**	**432**
Unknown	1		0		1	**2**
Total	**146**		**142**		**146**	**434**

More deaths occurred in patients cared for by anaesthetists who undertook fewer anaesthetics than the median but the overall number of deaths was small. This pattern does conform with the

published evidence that hospitals and surgeons performing greater numbers of aortic aneurysm repairs have better results (see Organisation of vascular services). One cannot conclude that this pattern is caused by the anaesthetist. It may be that anaesthetists who perform few major vascular cases a year work in hospitals that do few aneurysms overall, with limited resources and expertise in caring for such patients.

Emergency operations

The most senior anaesthetist present at the 264 emergency open repairs was asked to supply the number of anaesthetics for elective and emergency AAA repairs they administered from April 2002 to March 2003.

Regarding elective aneurysm experience, 43 questionnaires reported that the number of anaesthetics given for elective aneurysm repair in 2002/03 was 'Unknown': 56 questionnaires failed to supply any answer. 78% (128/165) of emergency patients undergoing open aortic aneurysm repair were cared for by anaesthetists who anaesthetised 10 or less elective repairs in 2002/03. 61% (101/165) were cared for by anaesthetists who performed five or less elective repairs in 2002/03.

Regarding emergency aneurysm experience, 47 questionnaires reported that the number of anaesthetics given for elective aneurysm repair in 2002/03 was 'Unknown' and 48 questionnaires failed to supply any answer. 98% (166/169) of emergency patients undergoing open aortic aneurysm repair were cared for by anaesthetists who anaesthetised 10 or less emergency repairs in 2002/03: 85% (143/169) were cared for by anaesthetists who performed five or less emergency repairs in 2002/03. Only three anaesthetists reported anaesthetising more than 10 emergency patients for aortic aneurysm repair in 2002/03.

Figure 5 gives the range of responses.

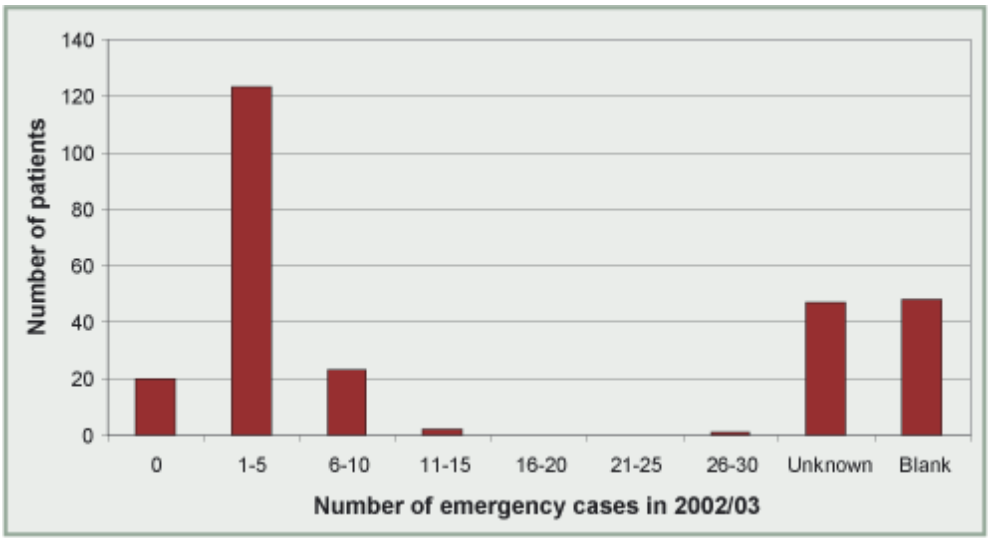

Figure 5. Number of anaesthetics for emergency open AAA repair performed by most senior anaesthetist in 2002/03 *n=434*

These data show that most anaesthetists have a very small exposure to the major emergency operation of emergency aortic aneurysm repair. Is this situation unavoidable given the number of anaesthetists on call for emergency aneurysm repair and the number of cases that present to each hospital a year?

The data for the outcome of emergency operations associated with the number of emergency cases performed by the anaesthetist have been analysed in the same manner as for elective

operations (Table 14).

Table 14. Outcome of open AAA repair by number of anaesthetics for emergency AAA repair given in 2002-03

	Low volume	%	High volume	%	Unknown	Total
Died within 30 days	32	40	23	27	39	**94**
Alive at 30 days	48		62		60	**170**
Sub-total	**80**		**85**		**99**	**264**
Unknown	0		0		0	**0**
Total	**80**		**85**		**99**	**264**

As with elective operations, there is a pattern that there were fewer deaths associated with the anaesthetists who performed more emergency procedures. NCEPOD cannot say that this pattern was directly related to the performance of the anaesthetist, only that anaesthetists who performed fewer emergency aneurysm repairs in 2002/03 were part of a system of care that appeared to result in less favourable outcome.

Given the very small number of cases, elective and emergency, that are done by many anaesthetists, anaesthetic departments should review whether these cases could be concentrated in the hands of a smaller number of anaesthetists, so that fewer anaesthetists do the occasional aneurysm repair. One change could be the introduction of a specialist vascular anaesthetic on-call rota.