4. Surgery

Elective surgery >> Postoperative complications within 30 days of surgery

21% of elective cases had an infective complication of some sort.

1% of patients developed paraplegia.

6% (25/430) of patients had a graft complication and 14 (3%) returned to theatre. Complications related to limb ischaemia were reported in 5% (23/428) of cases and 12 patients (3%) had to return to theatre, one requiring an amputation.

Infections were common, affecting one in five patients undergoing an elective aneurysm repair. We did not ask specifically about MRSA but as might be expected the most common infections were chest infections (14%, 60/431) and wound infections (4%, 16/431). Only two patients developed graft infections within 30 days of surgery.

7% (31/428) of patients were reported to have had a myocardial infarction. For three patients there was no answer to this question and in another three it was unknown. No specific criteria for diagnosis of infarction were laid down in the questionnaire, so some silent myocardial infarcts may not have been reported. 45% of those who had an infarct died within 30 days of surgery. This is consistent with other reports of the grave prognosis of myocardial infarction in this context.

Table 10. Position of aortic clamp

Position of clamp	Total	%
Sub-diaphragmatic	4	1
Supra-renal	37	9
Infra-renal	352	90
Sub-total	**393**	
Unknown	12	
Not answered	29	
Total	**434**	

The incidence of clamps placed above the renal arteries (9% 37/393) seems quite high (Table 10). The development of renal impairment after elective surgery was divided into those patients showing a rise in urea of greater than five mmol/l above the preoperative level, and those who required renal support. Not surprisingly there was a marked increase in the risk of renal impairment if the clamp was placed above the renal arteries at some point in the operation. Although only 9% of patients had a clamp applied above the renal arteries, the urea rose over 5mmol in 25% of patients, and 41% required renal support.

There were 335 cases when the clamp was applied below the renal arteries and in whom data were supplied for both the preoperative creatinine level and the outcome for renal function.

Table 11. Level of renal impairment in patients with an infra-renal aortic clamp							
Preoperative creatinine level	**No renal impairment**	**%**	**Urea >5mmol above preoperative level**	**%**	**Renal support**	**%**	**Total**
≤125 µmol/L	264	95	10	4	3	1	**277**
>125 µmol/L	46	79	9	16	3	5	**58**
Total	**310**		**19**		**6**		**335**

Despite a preoperative creatinine level of ≤ 125 µmol/L, 5% of patients with an infra-renal aortic clamp developed some degree of renal impairment. This figure rose to 21% for those with a preoperative creatinine level above 125 µmol/L.

Four patients (1%, 4/426) were reported to have suffered a stroke within 30 days of surgery. One of the two patients who had a disabling stroke died.

Two patients (0.5%, 2/427) developed ischaemic bowel, (confirmed either at laparotomy, by mucosal changes at endoscopy or at autopsy). Both patients died.

1% (4/426) of patients developed paraplegia but all survived to 30 days. This would seem to have been a more frequent event than might have been anticipated. It is a catastrophic complication. NCEPOD has no information on the consent process, so cannot comment on whether the possibility of this complication would have been explained to the patient before the operation.

‘Other’ complications were reported for 19% (68/367) of patients.