

Summary of the 2016 National Vascular Registry Report

The NVR is commissioned by HQIP as part of the National Clinical Audit Programme. One of the aims is to promote and support local quality improvement. The results across all major arterial procedures demonstrate that vascular units are achieving good clinical outcomes in general. Areas where improvements could be made:

(1). Services with long times from diagnosis to surgery for carotid endarterectomy and aortic aneurysm should review their practice to identify how these times can be reduced. For aortic aneurysm, the NVR is running a national 'snapshot' audit, investigating whether particular aspects of the care pathway are causing delays. The results of this will be reported in 2017.

(2) It has been noted that 75% of patients with a ruptured AAA that arrived at a vascular unit alive had an open emergency repair. The fact that EVAR procedures only constituted 25% of patients may reflect limitations in the availability of endovascular facilities and skill sets in some vascular units. NHS organisations should establish what factors are limiting the use of EVAR for ruptured AAA patients.

(3) The results on organisation-level outcomes after lower limb amputation and endovascular revascularisation must be interpreted with caution because of the low case-ascertainment rates. Better case-ascertainment will allow for more useful analysis of unit activity, pathways and outcomes, which are essential for any quality improvement measures.

Carotid endarterectomy

Mode of anaesthesia used:

General anaesthesia only (2531 patients - 54.8%)

Local anaesthesia only (1162 patients – 25.2%)

Other (combination of GA and local) (923 patients – 20%)

In 2015, just over half of the patients were admitted to the ward after their operation, with 44% of patients being admitted to either level 2 or level 3 critical care wards. The length of stay in critical care was typically short, with the median duration in level 2 and level 3 critical care being 1 and 2 days, respectively. Overall, the median length of stay in hospital was 3 days.

The risk of postoperative complications (cardiac including MI, nerve damage, bleeding, stroke) was low. For the nearly 15,000 procedures performed in NHS hospitals between 2013 and 2015, the rates of the different complications tended to be around 2% (see full report for more detail). The overall risk of risk death/stroke within 30 days was 2.1% and the incidence of return to theatre was 2.8%.

There is considerable variation between NHS vascular units with regard to the 14-day target for symptoms to surgery. On average the UK data demonstrates a six-day delay (range 6-55 days) between decision to operate and definitive surgery. These findings

should prompt local vascular teams to consider where exactly delays occur in their pathway. Access to elective vascular or emergency operating theatres may be an important determinant.

It is important that vascular anaesthetists work with colleagues without regular vascular practice to support the emergency anaesthesia service by making local pathways and protocols known with regard to the management of carotid endarterectomy (e.g. sharing pathways for the management of hypertension in the perioperative period and anaesthetic techniques for CEA).

Elective infra-renal AAA repair

In relation to the standards as set out by the AAA Quality Improvement Framework the report concluded that;

74.4% of elective patients were discussed at MDT meetings

96.0% of patients underwent a formal anaesthetic review

92.2% of patients who had an anaesthetic review had one by a consultant vascular anaesthetist.

82.2% of patients had their fitness objectively measured, the most common assessment method being Cardiopulmonary exercise testing (CPET in 47.6%).

Not surprisingly the vast majority (97.6%) of open AAA repairs were nursed in a Critical Care Unit after surgery (median length of stay was 2 days in Critical Care; 8 days in hospital in total). Of those that underwent standard EVAR, 42.9% were nursed in Critical Care (median length of stay was 1 day in Critical Care; median stay in hospital was 3 days). The overall in-hospital mortality rates for open and EVAR procedures were 3.1% and 0.6%, respectively

Ruptured infra-renal AAA

Given the serious nature of a ruptured AAA, it is unusual for patients not to have an ASA grade of 4 or 5. The NVR report encouraged NHS trusts to review the records of patients not given these ASA ratings for possible data entry errors.

Twenty five percent of patients had an EVAR procedure for a ruptured AAA, in contrast to the two-thirds of elective infra-renal AAA repairs being performed this way. Mean mortality was 36.6%

Lower limb revascularisation (endovascular and bypass)

Case-ascertainment for the endovascular procedures is extremely low at 17%. In contrast with lower limb bypass case-ascertainment rate of 90%. It is therefore difficult to make statements regarding endovascular procedures at the current time. Mortality rates for surgical bypass procedures were 3% (95% CI 2.7 to 3.0). Major complications were relatively uncommon but readmission rates within 30 days were 10% across the UK. The average length of stay being 8 days. Most patients (82.7%) had the procedure performed under general anaesthesia. Very few required critical

care admission and 12% of endovascular procedures were performed in day-case units.

Major lower limb amputation

In April 2016, The Vascular Society of Great Britain and Ireland (VSGBI) revised the 2010 Amputation Quality Improvement Framework (QIF) and produced *A Best Practice Clinical Care Pathway for Major Amputation Surgery*. The purpose is to improve mortality to < 10%.

Recommendations related to the perioperative phase of care include:

1. Amputations should be undertaken on a planned operating list during normal working hours
2. A Consultant Vascular Surgeon should operate, or be present in the theatre to supervise a senior trainee (ST4 or above) undertaking the amputation
3. Patient should have routine antibiotic and DVT prophylaxis according to local policy
4. Patients should be reviewed by a consultant (vascular) anaesthetist for optimisation and post-operative level of care.
5. A consultant anaesthetist or experienced post FRCA trainee should be present in theatre.

In-hospital deaths are reported to be 5.6% for BKA and 12.4% for AKA. The majority of patients have severe comorbid disease, as indicated by ASA grades (>86% ASA 3-5) and 67.6% has diabetes. Most lower limb amputations in the NVR were not scheduled or elective: 74.9% of BKAs and 81.4% of AKAs were urgent or emergency procedures.

Over 80% of all amputations were performed during the day, but a proportion of procedures were also undertaken during the evenings and nights. In the 3 months during which data were available, a consultant was present in theatre at nearly 80% of amputations.

General anaesthetic, alone or in combination with other methods, was used in 68% of BKAs and 69% of AKAs. The routine use of antibiotic and DVT prophylaxis was comparatively low being around 60%.

NVR data capture for lower limb amputation is low (just over 50%) and therefore the results should be interpreted with caution. Critical care usage for this very high-risk group remains low.

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Research & Audit committee, VASGBI, February 2017

