Provision of Anaesthetic Services in Interventional Radiology – A National Survey.

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Introduction

Interventional radiology is a rapidly expanding speciality. It often involves complex procedures and patients with multiple co-morbidities. Therefore we should anticipate the increasing requirement for anaesthetic assistance and for sessions within the radiology department. Previous surveys have shown that anaesthetists are under-utilised in the radiology department and so we sought to investigate the specific anaesthetic provisions for interventional radiology in the UK(1).

Methodology

We sent out a survey to members of the Society of Interventional Radiology asking them a number of questions relating to the provision of anaesthetic services in their radiology department (excluding paediatric services). We received replies from 137 hospitals. 18 of which we defined as large centres (i.e. accepting regional/national referrals, completing >2000 cases/year and providing a 24 hr service). We focused our survey on these large centres to better assess the anaesthetic provided for the more complex procedures that often do not occur at smaller centres.

Discussion

Compared to the other subspecialities, neuroradiological procedures, other than diagnostic angiography, often have an anaesthetist present (Figure 1). This is due to the need for total patient compliance in carrying out both diagnostic and therapeutic interventions. General anaesthesia ensures patient immobility and allows controlled apnoea, permitting optimal image acquisition and treatment delivery. Experience has shown that should a complication occur during a procedure, such as aneurysm rupture, it is impossible to control the situation by coil delivery and detachment, unless the patient remains still.

Complex vascular cases such as EVARS, TIPPS and major obstetric haemorrhage require the presence of an anaesthetist (figure 1b). However many vascular procedures do not require sedation and may be fairly straightforward. However where sedation is needed it is often not administered by an anaesthetist. This is seen to an even greater extent in non-vascular procedures such as biliary stenting (Figure 1c). These procedures are long established and are done routinely without an anaesthetist.

Notably radiofrequency ablation is largely done under general anaesthetic, and studies have shown that this reduces the risk of incomplete ablation (Figure 1d). As expertise in radiofrequency ablation increases it is attempted on more difficult-to-reach tumours and on multiple lesions. Correspondingly there will be an increasing need for anaesthetic cover.

Most importantly there is a wide variability of support offered to patients having the same procedure but in different centres. This ranges from consultant anaesthetist delivered care, to sedation or just monitoring by other healthcare professionals.

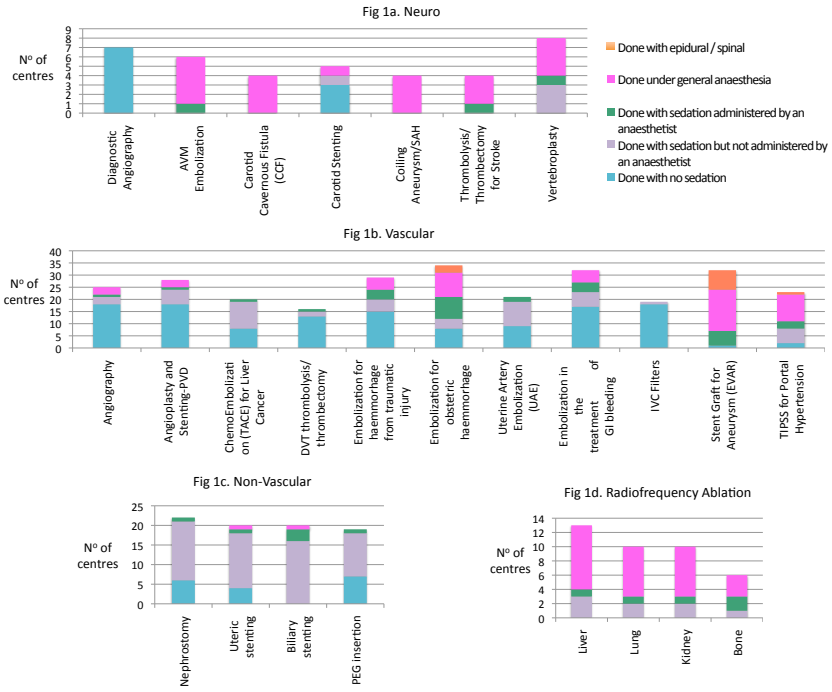


Figure 1. Anaesthesia and Sedation for Interventional Radiological Procedures

Figure 2. Does anyone else (apart from anaesthetists) administer sedation for interventional radiological procedures?

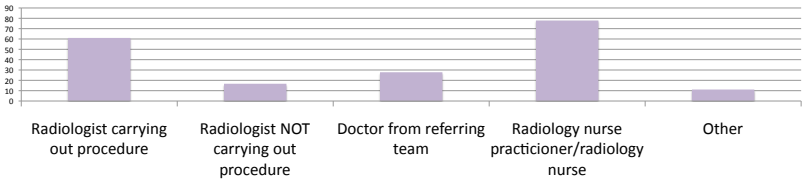


Figure 3. For any healthcare professional who sedates patients in your department, please indicate the level of their training.

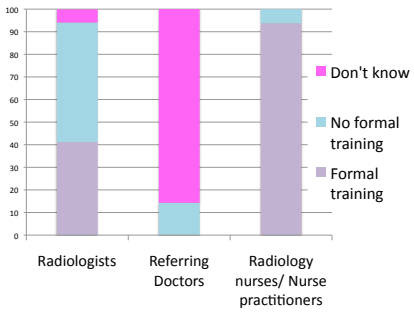
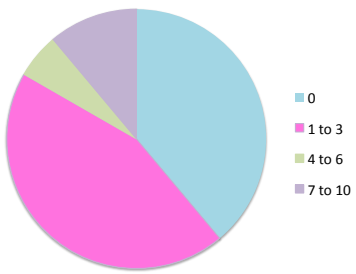


Figure 4. How many dedicated anaesthetic sessions does your department receive each week?



Despite advice from the Royal College of Radiologists that 'it is no longer appropriate for the operator/anaesthetist role to be borne by the interventional radiologist alone' (2,3), 61% of radiologists carrying out the procedure also give the sedation (Figure 2).

In January 2007 the NPSA identified a serious problem in the current use of midazolam for conscious sedation in adults. These errors mainly occurred due to lack of awareness, a lack of training, and insufficient staff. In our survey only 41.1% of radiologists had actually received formal sedation training (Figure 3). However most departments (77.8%) had a nurse to administer sedation, who in the vast majority of cases received formal training. The level of training of other speciality doctors was largely unknown.

Significantly seven out of the eighteen large centres had no dedicated anaesthetic sessions and only three had four sessions or more per week (Figure 4).

Conclusions

Key to providing the best environment for good working practices is the development of excellent relationships between the departments of radiology and the department of anaesthesia. There should be a consultant of each speciality appointed to assess requirements and resources and to liaise over common protocols. Anaesthetic departments should be involved in the training of junior radiologists and nurses in sedation techniques and ALS. There should be pre-arrange fixed anaesthetist cover but also scope for more flexible cover especially when it concerns urgent procedures.

References

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