A survey of competency-based training of senior house officers in performing minor surgical procedures

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ABSTRACT

INTRODUCTION The aim of this survey was to ascertain the level of competency and training of basic surgical trainees (SHOs) in performing incision and drainage of a perianal abscess (a minor surgical procedure).

MATERIALS AND METHODS Questionnaires were sent to SHOs enquiring about preferred methods of incision and drainage and the teaching received to perform this procedure.

RESULTS Of respondent SHOs, 10% did not receive teaching when performing their first incision and drainage and over half did not received any feedback from their trainers. A mere 65% received practical supervision. Use of the curette and de-roofing of the abscess are not routine methods used. In addition, 13% reported inadequate incision and drainage, which required a second procedure.

CONCLUSIONS Competency-based training in minor surgical procedures benefits not only from didactic teaching, immediate supervision and appraisal but also from frequent practise. This was found to be lacking for incision and drainage of perianal abscesses by basic surgical trainees surveyed in the study.

KEYWORDS

Senior house officer – Training – Surgery

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Senior house officers (SHOs) have long been seen as the 'lost tribe' of the medical profession in the UK. Problems with job structure, working conditions and training opportunities within the SHO grade were recognised in *Unfinished Business*.¹ This report was followed by *Modernising Medical Careers* which currently underpins much needed reform of the SHO grade.²

A new surgical training curriculum will be introduced by The Royal College of Surgeons of England in 2007. Instead of the current 'time-based' system of training, the new curriculum will be based on the acquisition of agreed competencies in a seamless training programme from Basic Surgical Training (BST) to Higher Surgical Training (HST). However, the level of competency required by a surgical SHO, for example in performing minor operations, is as yet undefined. Furthermore, support and training of trainers at present is unsatisfactory.

This survey sets out to ascertain the level of competency of SHOs in performing minor surgical procedures. Baseline competency levels are important in planning a teaching curriculum. Incision and drainage of a perianal abscess was

chosen as the standard. Perianal abscess is a common presentation and hence regularly seen by SHOs in general surgery. Incision and drainage (under general anaesthesia) is traditionally performed by SHOs.

Materials and Methods

A 14-item questionnaire was designed to examine how SHOs performed incision and drainage of perianal abscess. Teaching on how to perform the procedure and the preferred method of incision and drainage was also surveyed. SHOs in the Mersey Deanery BST Programme were selected to participate in the survey. The questionnaire was posted to the SHOs, and a reminder sent 6 weeks later.

Results

Overall results

Questionnaires were sent to 122 SHOs and 34 (29%) responded. Three first-year SHOs were excluded as they

had not worked in general surgery and, therefore, had not performed incision and drainage of perianal abscess. Thus, 31 data sets were examined.

Experience in general surgery ranged from 3 to 15 months (mean, 6 months). Of SHOs, 45% had completed 6 months in general surgery and only 6% had spent more than 12 months in the specialty. Of the SHOs, 55% were in the second year, followed by 26% in the third year, 16% in the first year and 3% in the fourth year of BST.

Nearly half of the SHOs (48%) had performed only 1–10 incisions and drainage of perianal abscess. A fifth (20%) had performed 11–20 incisions and drainage, whilst 32% reported operating on more than 20 perianal abscesses.

Teaching on how to perform incision and drainage of perianal abscess

Of SHOs, 80% reported that, at their first incision and drainage of perianal abscess, a more senior surgeon gave instructions prior to performing the operation (Fig. 1). A 'senior surgeon' was defined as a consultant, specialist registrar, associate specialist or Trust-grade surgeon. Of these, 74% had been taught by a specialist registrar and the remaining 6% by a consultant (Fig. 2). Some (6%) were taught by their SHO colleague, whilst 4% had been taught by the scrub nurse at the operating table. Some 10% did not receive any teaching although a few admitted to reading from a book prior to operating.

Although 80% were taught by a senior surgeon, only 61% reported that they were accompanied by the senior

Figure 1 .At first incision and drainage of perianal abscess.

At your first incision and drainage of perianal abscess:

1. Was a senior surgeon present with you?
2. Was that member of staff scrubbed with you?
3. Were instructions given pre-operatively?
4. Did you look at the abscess pre-operatively with a senior surgeon?

Figure 2 From whom teaching was first received to perform incision and drainage of perianal abscess.

surgeon to examine the abscess pre-operatively (Fig. 1). Of respondents, 65% reported that the senior surgeon was present in theatre at the first incision and drainage but only 43% were scrubbed at the operating table. Over half (52%) did not receive any feedback from their senior colleagues. Of the SHOs, 13% reported that some of the operated abscesses were taken back to theatre for re-incision and drainage.

Preferred method of incision and drainage of perianal abscess by SHOs

Of the SHOs, 84% combined incision with de-roofing of the abscess. The preferred method of 52% of the SHOs was a cruciate incision and de-roofing, whilst 32% performed an ellipsoid incision with de-roofing. Only 10% performed a cruciate incision only and 6% performed a longitudinal incision (Fig. 3).

A curette was not routinely used by 29% of the SHOs. The most common method to achieve haemostasis was the use of packing material (58%), followed by hydrogen peroxide (19%). Diathermy was the preferred method for haemostasis in 13% whilst 10% applied direct pressure.

All SHOs reported using some form of packing material for the abscess cavity. Aquacel was most commonly used (61%), 29% used ribbon gauze and 10% used Kaltostat.

Discussion

This small study has highlighted some disturbing facts about junior surgical training. Of basic surgical trainees, 35% had no senior surgeon present when they performed their first incision and drainage of perianal abscess. Reading from a book or being instructed by the attending scrub nurse are inappropriate methods of training. Of SHOs,

13% reported that one or more of their patients had returned to theatre for repeat incision and drainage. Return to theatre in most cases (unless planned at the first procedure) indicates poor technique and a lack of understanding and insight into the condition. Multiple incision and drainage exposes the patient to unnecessary increased risks associated with general anaesthesia and surgery, prolongs hospital stay and has medicolegal implications.

There was a marked variation in technique. The use of a curette and de-roofing of the abscess was not frequently practised. The methods of incision and drainage used by the SHOs reflect the teaching received from their trainers. No doubt senior surgeons will have individual preferences whilst operating and, in many cases, surgical procedures will be tailored to the clinical need. However, in the context of surgical procedures which are deemed appropriate for an SHO to perform under supervision, a consistent curriculum may be beneficial.

The low response rate was disappointing. Possible explanations include embarrassment at the lack of personal knowledge about the procedure, acknowledgement of the

lack of senior supervision (are some trainees shunning senior supervision because the procedure is considered so minor?), lack of appreciation of the pitfalls of incision and drainage of perianal abscess and, perhaps, general despondency with SHO training.

Despite the low response rate, this survey has identified shortcomings in the teaching, supervision and appraisal of surgical trainees in performing a minor surgical procedure. No SHO reported any didactic or group teaching prior to performing incision and drainage. We cannot merely rely on 'experience' as a way of learning and perfecting technique. Reduction in hours and increasing service commitment for SHOs will decrease the numbers of individual procedures performed. Therefore, formal training both in the laboratory and at the operating table should be mandatory for all surgical procedures. Minor procedures, including incision and drainage of perianal abscess, appear to be escaping the principles that a consultant would adhere to for more complicated procedures.

Conclusions

The SHO grade is undergoing immense reform. The new curriculum aims to provide a seamless training programme with an emphasis on competency-based training and assessment. This survey shows the need to re-think the training that is presently given to SHOs to allow them to perform minor surgical procedures adequately without adverse effects to the patient. Better training, both inside and outside the operating theatre, is required if we are to achieve 'competency' for SHOs.

References

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