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BAHNO surgical specialities: same patients, different practices?

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Abstract
The British Association of Head and Neck Oncologists (BAHNO) is 'a multidisciplinary society for healthcare professionals involved in the study and treatment of head and neck cancer'. Surgical members of this organization are from three specialities (otolaryngology, maxillo-facial and plastic surgery). Although the overall impression is that the management of UK head and neck cancer patients is consensus based, there are appreciable differences in each surgical speciality's practice. Anecdotally, this can lead to variation in the management of very similar patients. To identify some of these variations BAHNO surgeons were surveyed regarding their current head and neck cancer practices from the perspectives of surgical activity and post-operative care. Some unexpected differences were identified, particularly in relation to post-operative care with plastic and maxillo-facial surgeons demonstrating different patterns of high dependency unit (HDU) and intensive care unit (ICU) use for the same patients. The implications for future consensus in the light of these variations are discussed.

Key words: Surgery; Head and Neck Neoplasms; Critical Care

Introduction

Patients with head and neck cancer are a heterogeneous group[1] and the clinicians who manage them come from different speciality backgrounds. The British Association of Head and Neck Oncologists (BAHNO) is the only UK organization to bring these specialities together in one forum. It includes members from three surgical specialities otolaryngology, maxillo-facial surgery and plastic surgery. Despite the different training and experience of each speciality, there appears to be overlap of operations performed and even within stated head and neck 'teams' there is not always clear sub-specialization.[2] Since the respective portfolios of operations have not been clarified there may be important differences in approach to post-operative critical care.

Although guidelines from the BAHNO state that there should be 'on-site intensive care and high dependency unit facilities' where head and neck cancer surgery is performed,[3] there are no national guidelines specifying the patients and/or operations in which they should be used. Since three different surgical specialities manage these patients, variations in practices are likely.

The members of the BAHNO were asked to provide details of their current surgical activity and their use of post-operative critical care.

Methods

With the approval of the BAHNO Council, the BAHNO (2002) mailing list of exactly 300 entries was obtained. There was no simple way of identifying only surgeons but radiotherapists and oncologists were asked to disregard the survey. A questionnaire (Appendix) was designed to identify the mix of surgical specialists within the BAHNO, to identify operations performed and use of critical care. It was piloted and refined by the local head and neck multidisciplinary team. No questions were asked regarding the volume of cases undertaken or outcomes.

Respondents were also asked if they would be prepared to start a procedure knowing that their 'ideal' post-operative destination was not available. This mail shot was administered via the local Clinical Effectiveness unit and all replies were anonymous. The mail shot was then repeated after two months, to all on the list.

Results

Two hundred and sixty-one replies were received after the second and final mail shot. Three replies were from clinical oncologists and five did not state a speciality. These were excluded from further analysis, giving 253 useful responses (84 per cent).

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TABLE I

SURGICAL MEMBERS OF BAHNO BY SPECIALTY

Specialty	Percentage (number)
ENT	44% (110)
Maxillo-facial	39% (99)
Plastics	17% (44)
Total	100% (253)

Otolaryngologists were the largest group, followed by maxillo-facial and plastic surgery (Table I). Ninety-six per cent were consultants.

Activity

Operations performed are summarized in Table II. Parotid surgery, neck dissections and pedicled flaps were undertaken by most BAHNO surgeons. Laryngeal work was almost exclusively performed by otolaryngologists, although one-quarter of plastic surgeons were also involved. Virtually all maxillo-facial and plastic surgeons have a practice including free tissue transfer. Where otolaryngologists were involved with free flaps, it was generally as part of the team rather than as a microvascular surgeon. Eighty-five per cent of otolaryngologists performed thyroid surgery (n = 94) but 25 percent (n = 25) of maxillo-facial surgeons also have a thyroid practice.

Use of intensive care and high dependency units

Otolaryngologists and maxillo-facial surgeons have more routine access to the intensive care unit (ICU) than the high dependency unit (HDU) (Table III). Plastic surgeons however, have more access to HDUs than ICUs. For free tissue transfer, plastic surgeons preferred the HDU for post-operative care, whilst maxillo-facial surgeons preferred the ICU (Table IV).

There was clear consensus that patients undergoing less extensive surgery such as parotidectomy, thyroidectomy or neck dissections, can be managed on a ward post-operatively. While most otolaryngologists and maxillo-facial surgeons were content for tracheostomy patients to return to the ward, many plastic surgeons preferred these patients to go to the HDU. Similarly, laryngeal surgery is an area where the large majority of otolaryngologists return their patients to the ward, but the other specialities do not.

In response to the question 'Have you ever been prepared to begin an operation when the destination of choice wasn't available?', most surgeons usually cancelled the operation (Table V).

Discussion

This survey, which concentrated on surgical activity and critical care use, obtained a large response from the consultant members of the BAHNO. The authors can therefore be confident that discussions based on these replies are an accurate reflection of contemporary head and neck surgical practice.

Activity

Our results regarding activity are in keeping with other publications, which show that differences in head and neck practice develop because of specific anatomical familiarity and specialist training.[4] Overall, patterns of speciality practice have not altered significantly in the last seven years.[5]

Some contentious aspects, however, are worth commenting upon. Total pharyngo-laryngectomy and reconstruction has a high mortality and is only appropriate for a few patients. The large number of otolaryngologists prepared to perform this procedure (99) raises important questions regarding the relative experience that each surgical team will acquire and how to concentrate this.

Thyroidectomy appears in maxillo-facial training log books under the heading 'Aesthetic-other'.[6] It

TABLE II

ACTIVITY OF BAHNO SURGEONS

	ENT		Maxillo-facial		Plastics	
	Do	Don't	Do	Don't	Do	Don't
Superficial / total parotidectomy	95% (105)	5% (5)	98% (97)	2% (2)	89% (39)	11% (5)
Thyroidectomy	85% (94)	15% (16)	26% (26)	74% (73)	16% (7)	84% (37)
Tracheostomy	96% (106)	4% (4)	96% (95)	4% (4)	70% (30)	30% (14)
Neck dissection	97% (107)	3% (3)	98% (97)	2% (2)	98% (43)	2% (1)
Partial laryngectomy +/- ND	84% (92)	16% (18)	6% (6)	94% (93)	23% (10)	77% (34)
Total laryngectomy +/- ND	92% (101)	8% (9)	6% (6)	94% (93)	25% (11)	75% (33)
Total pharyngo-laryngectomy and pharyngeal reconstruction	90% (99)	10% (11)	17% (17)	83% (82)	61% (27)	39% (17)
Oral cavity / oropharyngeal resection not requiring reconstruction	77% (85)	23% (25)	96% (95)	4% (4)	84% (37)	16% (7)
Oral cavity resection requiring reconstruction	76% (84)	24% (26)	97% (96)	3% (3)	91% (40)	9% (4)
Pedicled flaps	87% (96)	13% (14)	92% (91)	8% (8)	95% (42)	5% (2)
Free tissue transfer	77% (85)	23% (25)	95% (94)	5% (5)	95% (42)	5% (2)

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appears a rare procedure for a maxillo-facial trainee to experience yet one-quarter of maxillo-facial surgeons stated they performed thyroid surgery. Similarly, one-quarter of plastic surgeons replied that they had a laryngectomy practice. These apparently unusual practices may be attributable to the survey format and the relatively small numbers involved.

TABLE III

ACCESS TO CRITICAL CARE BY BAHNO SPECIALTY

Routine access to	HDU	ICU
ENT	76% (84)	86% (95)
Maxillo-facial	73% (72)	84% (83)
Plastics	86% (38)	70% (31)
Overall	77% (194)	83% (209)

Use of intensive care and high dependency units

Seven years ago, on-site access to ICU and HDU for head and neck surgeons was recorded at 82.5 per cent and 55 per cent respectively.[5] In this latest survey, access to ICU is 83 per cent but with considerable recent attention to the role of HDU,[6–8] on-site availability has risen to 77 per cent. The different roles of these units (Table VI), and the division of patients into different levels of critical care need[8–10] mean the vast majority of head and neck patients are at a level where they could be appropriately returned to the ward or HDU (Table IV).

Plastic surgeons use HDU beds more than their BAHNO colleagues do, presumably because of the historical siting of plastic surgery units away from main centres. The current mean cost of an ICU bed is £1232/day whereas HDU is £522/day.[11] The authors do not have any data regarding the mean length of stay nationally but it is likely there would be significant cost savings by using HDU rather than ICU.

The reasons why HDU might not be used include the lack of free beds, the inability to 'reserve' a bed, the unfamiliarity of the nursing staff with head and neck patients and perhaps even the proximity of the ICU. This has led to the development of other solutions such as placing critical care beds within the head and neck unit.[10,12,13,14] These are known variously as 'step-down' or 'OtoCare unit' beds and are a workable alternative to inappropriate ICU use and inaccessible HDU beds.

Most BAHNO surgeons feel that a procedure should be cancelled if the desired post-operative destination is unavailable. When there is no HDU or ICU bed, the decision to commence surgery is difficult and many factors need to be considered, not least safety and governance. The decision is often reached by the anaesthetist, independent of any surgical issues.

A recent US study showed that only 1.5 per cent of head and neck patients required admission to the ICU[15] and the majority of these admissions were for cardio-respiratory co-morbidity. There were no consistent factors that could predict this need, and in particular there was no link to more extensive surgery. Routine use of the ICU based solely on complexity of surgery would therefore seem unwarranted.

Conclusion

There is significant consensus within BAHNO surgical specialities regarding the use of the HDU and ICU for head and neck surgical patients. However, this study has also identified possible variations in practice that merit prospective audit and discussion.

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TABLE IV

POST-OPERATIVE DESTINATION FOR H & N PATIENTS BY SPECIALTY

	ENT				Maxillo-facial				Plastics			
	Ward	HDU	ICU	Multiple	Ward	HDU	ICU	Multiple	Ward	HDU	ICU	Multiple
Superficial / total parotidectomy	99% (104)	0	0	1% (1)	99% (96)	1% (1)	0	0	97% (38)	0	0	3% (1)
Thyroidectomy	99% (93)	0	1% (1)	0	92% (24)	4% (1)		4% (1)	100% (7)	0	0	0
Tracheostomy	90% (95)	8% (9)	1% (1)	1% (1)	79% (75)	17% (16)	1% (1)	3% (3)	50% (15)	47% (14)	0	3% (1)
Neck dissection	93% (100)	6% (6)	1% (1)	0	88% (85)	8% (8)	0	4% (4)	88% (38)	9% (4)	0	3% (1)
Partial laryngectomy +/- ND	70% (64)	22% (20)	8% (8)	0	0	17% (1)	67% (4)	17% (1)	50% (5)	40% (4)	10% (1)	0
Total laryngectomy +/- ND	68% (69)	23% (23)	8% (8)	1% (1)	0	17% (1)	67% (4)	17% (1)	36% (4)	45% (5)	18% (2)	0
Total pharyngo-laryngectomy and pharyngeal reconstruction	8% (8)	16% (16)	69% (68)	7% (7)	0	6% (1)	94% (16)	0	4% (1)	48% (13)	41% (11)	7% (2)
Oral / oroph resection not requiring reconstruction	68% (58)	21% (18)	6% (5)	3% (4)	63% (60)	29% (28)	2% (2)	5% (5)	54% (20)	35% (13)	8% (3)	3% (1)
Oral / oroph resection requiring reconstruction	21% (18)	15% (13)	57% (48)	6% (5)	6% (6)	27% (26)	56% (54)	10% (10)	8% (3)	50% (20)	28% (11)	15% (6)
Pedicled flaps	58% (56)	27% (26)	12% (12)	2% (2)	41% (37)	36% (33)	13% (12)	9% (9)	71% (30)	19% (8)	0	10% (4)
Free tissue transfer	18% (15)	27% (23)	48% (41)	7% (6)	7% (7)	26% (24)	54% (51)	13% (12)	26% (11)	45% (19)	17% (7)	12% (5)

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TABLE V

HAVE YOU EVER BEEN PREPARED TO START A CASE KNOWING THE DESTINATION OF CHOICE WAS NOT AVAILABLE?

	ENT	Maxillo-facial	Plastics	Overall
Yes	20%(22)	39%(39)	27%(12)	29%(73)
No, I've cancelled	59% (65)	51% (50)	53% (23)	55% (138)
Never arisen	17% (19)	6% (6)	16% (7)	16% (32)
Blank	4% (4)	4% (4)	4% (2)	4% (10)

Hospital for administering the mail shots and compiling the database.

- **This is a survey of British maxillofacial surgeons, ENT surgeons and plastic surgeons who undertake head and neck surgery**
- **The current practice in these groups is discussed as is the way in which different surgical specialities manage their patients in the post-operative period. In particular the attitude to the use and availability of high dependency and intensive care beds is highlighted**
- **The implications for future consensus between the specialities in the light of these variations is discussed**

TABLE VI

DEFINITIONS OF APPROPRIATE PATIENTS FOR CLINICAL CARE

Intensive care is appropriate for:
- Patients requiring or likely to require advanced respiratory support alone
- Patients requiring support of two or more organ systems
- Patients with chronic impairment of one or more organ systems sufficient to restrict daily activities (co-morbidity) and who require support for an acute reversible failure of another system

High dependency care is appropriate for:
- Patients requiring support for a single failing organ system, but excluding those needing advanced respiratory support
- Patients who can benefit from more detailed observation or monitoring than can safely be provided on a general ward
- Patients no longer needing intensive care, but not yet well enough to be returned to the general ward
- Post-operative patients who need close monitoring for longer than a few hours, i.e. the period normally spent in the recovery area

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APPENDIX

BAHNO QUESTIONNAIRE

PLEASE TICK THE RELEVANT BOX

Are you a consultant ☐ or trainee ☐

Is your surgical speciality Plastics ☐ Maxillo-Facial ☐ ENT ☐ General ☐

Tick if you have routine access to HDU ☐ ITU ☐

For the following procedures please select the current, usual destination for your patient immediately post-operatively (assuming an uncomplicated surgical procedure and no urgent medical need for more intensive supervision).

	Ward	HDU	ICU	Don't do
Superficial/total parotidectomy	☐	☐	☐	☐
Thyroidectomy (no other procedure)	☐	☐	☐	☐
Tracheostomy (no other procedure)	☐	☐	☐	☐
Neck dissection (no other procedure)	☐	☐	☐	☐
Partial laryngectomy +/- ND	☐	☐	☐	☐
Total laryngectomy +/- ND	☐	☐	☐	☐
Total laryngectomy + pharyngeal recon (free jejunum, stomach pull-up)	☐	☐	☐	☐
Oral cavity/oropharyngeal resection (not requiring mandibulotomy, tracheostomy or free tissue transfer)	☐	☐	☐	☐
Oral cavity/oropharyngeal resection (requiring mandibulotomy +/- tracheostomy +/- free tissue transfer)	☐	☐	☐	☐
Any procedure with pedicled flap	☐	☐	☐	☐
Any procedure with free tissue transfer	☐	☐	☐	☐

Have you ever been prepared to begin an operation when the destination of choice wasn't available ?

Yes ☐ No, I've cancelled ☐ Never arisen ☐

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