How we do it: Head and neck cancer waiting times

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Keypoints

After instigation of rapid access referrals from GPs and the Calman-Hine 2-week rule, the times taken from initial presentation to the GP, until the start of definitive treatment for patients with head and neck cancer managed was audited and compared with national guidelines.

- An improvement in time from GP referral to first outpatient clinic (2.1 weeks), time to fine needle aspiration cytology (FNAC; 2.9 days), time to endoscopic examination (2.3 weeks) and to staging scans (3.3 weeks) was seen, these fell just outside the standards set. Time to histological report was within the standards set (0.4 weeks).
- As a result of the improvement in preoperative work up of cancer patients, there has been an increased delay to primary surgery (7.7 weeks) and a continued delay to primary radiotherapy (10.2 weeks).
- Delays because of poor patient education about head and neck cancer are still very apparent and need to be addressed, as well as further improvement in GP education about early referral to ENT services.
- The shortfalls seen need to be addressed by an increase in infrastructure as well as medical and paramedical staffing to ensure patients are managed within given time standards. Although patient throughput can be enhanced by improvements in system efficiency, it is unlikely that targets will be met consistently without an increase in resources to fund greater capacity and more personnel.

Early detection and treatment of squamous cell carcinoma carries with it a favourable prognosis – an overall 5-year survival rate for oral cancer is 68%, even large tumours with the appropriate treatment have 5-year survival rates of 64%.[1] As a result of a desire to identify and expedite early management of these and other cancer patients, the government with the help of individual speciality advisory groups, published nationally agreed standards designed to minimize the time from referral to primary treatment. It is hypothesized that if the standards are met, then 5-year survival rates will correspondingly improve.[2] Specific to patients suspected of suffering from head and neck malignancy, the British Association of Otolaryngologists, Head and Neck Surgeons (BAO-HNS) published standards in their first consensus document.[3]

Our institution (University Hospital Aintree in Liverpool), is a tertiary referral centre for head and neck malignancy, receiving referrals from other hospitals and ENT specialists in the Merseyside region, North Wales and the Isle of Mann, as well as referrals from local GPs. Patients referred by their GPs with suspected head and neck malignancy are initially seen in a specific multidisciplinary oncology clinic (MDC). Subsequent investigation involves either a diagnostic or staging panendoscopic examination with biopsy for histology as appropriate or fine needle aspiration cytology (FNAC) of suspicious masses. Radiological imaging involving MRI of the head and neck, as well as CT of the chest and upper abdomen or chest X-ray (CXR) are also undertaken. Definitive treatment as dictated by disease stage involves surgery, radiotherapy (DXT) or both.

In 2001 an audit was undertaken of the delays involved in our cancer management for 75 patients diagnosed between December 1999 and December 2000.[4] The findings of this audit showed lengthy delays in patient presentation to their GPs (4.9 months), in GP referral to specialist clinics (5.1 weeks), MDC to imaging (4.1 weeks to MRI; 5.6 weeks to CT), MDC to endoscopy (3.1 weeks), MDC to histology result (3.5 weeks) as well as an average 10.3-week delay to the start of primary radiotherapy – twice the wait to surgical treatment (5.5 weeks).

The results of this initial audit compared unfavourably with the national standards set. Therefore, following introduction of the Calman-Hine 2-week rule and the use of specific Head and Neck referral proformas for GPs

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within our catchment area, a re-audit of time delays was undertaken in 2003 to assess any changes that arose as a result of these changes.

As with the first audit, the time delays involved in the cancer journey for 75 consecutive patients were re-audited. The time intervals included duration of symptoms prior to presentation to the GP, duration of GP management and the time from GP referral to first MDC. In addition, the time from MDC to panendoscopy, FNAC or biopsy, histology, MRI and CT scan or CXR as well as time to the start of curative radiotherapy or surgery were re-audited.

Results

Table 1 shows the results of the second cycle of audit. Comparison of the individual waiting times from the initial audit,[4] the re-audit and the national standards can be seen in Fig. 1. Length of time of GP management and the duration from MDC to FNAC were intervals that were not measured in the first audit. Results show that mean time for GP management was 5.2 weeks (standard – immediate referral) and mean time for MDC to FNAC was 2.9 days (standard – no wait). Patient symptom duration prior to GP presentation was 3.9 months (standard – 1 month; initial audit – 4.9 months).[4]

Discussion

Following introduction of the specific head and neck GP referral proforma and the Calman-Hine 2-week rule, a considerable improvement in the intervals encountered by patients with head and neck tumours treated in our unit can be measured.

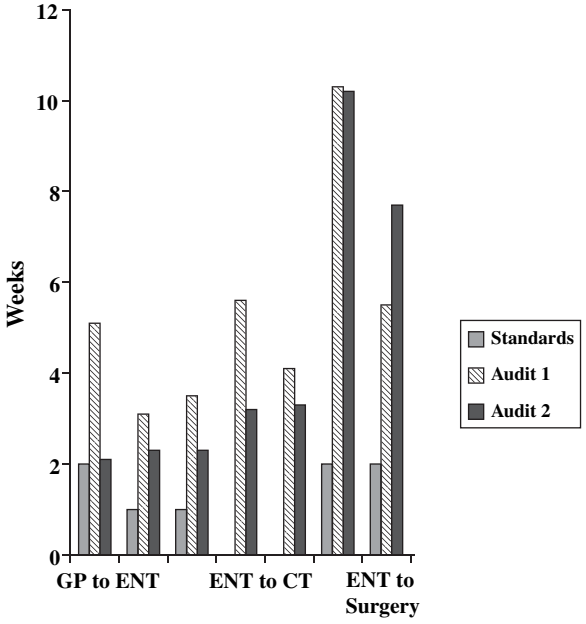

Fig. 1. Comparison of temporal data from audits with standards.

Improvement in intervals

The time from referral to first MDC review has been considerably reduced falling just outside the 2-week rule; the time for histology to become available after biopsy falls well within the 1-week criteria and a marked reduction in the time to staging scans has also occurred. However, the time to endoscopic examination and FNAC fall outside the standards.

Table 1. Waiting times – 2001 to 2003 with BAO-HNS minimum standards

Interval	Number of data	Mean waiting times (range) (weeks)	BAO-HNS minimum standards
GP management	75	5.2 (0–12)	1 day
GP to ENT	75	2.1 (0–16)	14 days
ENT to endoscopy	69	2.3 (0.3–18)	7 days
ENT to biopsy	59	1.9 (0–18)	
ENT to FNAC	17	2.9 days (0–9)	No wait
ENT to histology	75	2.3 (0.1–18.3)	7 days (biopsy to report issue)
ENT to CT	54	3.2 (0.3–19.1)	
ENT to CXR	12	3.4 (0–6)	
ENT to MRI	57	3.3 (0–19.1)	
ENT to DXT	28	10.2 (4.3–16.3)	14 days to planning
ENT to surgery	44	7.7 (1.4–22.4)	14 days
Symptom duration prior to GP consultation	75	3.9 months (1–30)	1 month

Interval to surgery

A 2-week deterioration in time to surgery in the second cycle of patients is noted – the changes made addressed the 'pre-treatment work-up' of the patient, ensuring early consultation, speedy diagnosis and staging of the tumour. Therefore patients were rapidly processed with a resultant backlog in patients needing definitive treatment. This lengthens the wait for surgery and radiotherapy. There is also an increase in the number of patients who had surgery as their primary treatment. This is compounded by a shortfall in the number of surgeons and operating list space, compared with the demand for this service. A number of head and neck cancer patients require complex reconstructive procedures as a part of surgery. Postoperative care for these patients in our institution relies on bed availability on the intensive care unit. Without this, procedures have to be postponed resulting in further delay as well as increasing the wait for patients added to the waiting list.

Pre-referral management

Continued concerns are the length of time some patients are managed by their GPs prior to referral. However, despite the longer delays noted in some cases, 44 patients (59%) were immediately referred, and 52 patients (63%) were referred within 2 weeks of attending the GP surgery. Therefore, on balance, GPs appear to be getting the message.

Patient education

The continued long delay before patients present to their GPs is further cause for concern. The necessity of early presentation is well advertised with respect to lung and breast cancers, but minimally for head and neck cancer. This may in part be the result of the lack of patient awareness of the common symptoms of head and neck cancer – this is an area health education must focus on. Lifestyle changes designed to prevent head and neck cancer should also be promoted. There is a real need to raise the profile of preventative measures for this disease – accordingly, an aim of the government is to decrease the percentage of smokers by the year 2010 to 24%.[5]

Interval to radiotherapy

Time to start of radiotherapy has shown very little change, with a similar range and median between the two arms of the audit. Whilst it was not formally investigated, the continued delays to primary radiotherapy may occur because of organizational inefficiency during planning, mould fitting and/or the delivery of the first treatment. It is likely that our data also reflects undercapacity of radiotherapy services generally. If patient education proves successful, an increase in numbers of patients needing radiotherapy for their T1 or T2 staged tumours may arise, further increasing treatment delays. Two new linear accelerators have recently been acquired and their effect on treatment delay is not measured in this audit. Any resultant change in time to primary radiotherapy will only be identified in future audit cycles.

Conclusions

The ultimate goal in cancer management is to facilitate cure while preserving optimal function and quality of life. It is surmised that rapid processing of patients to their definitive treatment will improve loco-regional control and improve survival rates. However, Barton *et al.*, found that a delay in initiation of radiotherapy for early laryngeal cancer is not a significant predictor of relapse.[6] It is worth noting that, in their study, 90% of courses of radiotherapy were started in less than 31 days – a considerable difference to the mean 70 days seen in our audit. The effects of this further delay are as yet unquantified in the literature.

The improvement in some temporal standards shown by our audit is encouraging and is a basis from which further improvements in the management of patients suffering from head and neck cancer can be made. Despite efforts to maximize organizational efficiency, it is unlikely that targets can consistently be met without further improvements in capacity and personnel – especially, as the stipulated target of 1-month duration from urgent referral to the implementation of definitive treatment is rolled-out for all tumours by 2005. The government, in principal, agrees. Consequently, 50 MR scanners, 200 CT scanners and 45 linear accelerators as well as 1000 new cancer consultants were to be commissioned by the end of 2003.[2] It remains to be seen whether this investment in hardware and personnel is achieved and whether it is actually translated into improved outcomes for patients suffering from cancers of the head and neck.

Declaration

S Tandon wrote the paper. All authors collected data. TM Jones and NJ Roland provided editorial advice.

Supplementary Material

The following material is available for this article online:

Fig. S1. Algorithm for patient management.

Fig. S2. Rapid access referral form for suspected head & neck cancer.

Table S1. Tumour demographics 2001 to 2003

Table S2. Presenting symptoms 2001 to 2003

References

1 Patel S.G. & Shah J.P. (2003) Results of treatment in oral cancer. In: Head and Neck Surgery and Oncology. Shah Jatin P. (ed), pp. 387–394. Mosby, London

2 Department of Health (2000) The NHS Cancer Plan. The Stationary Office, London

3 Wilson J.A. (2000) Effective Head and Neck Cancer Management – 1st Consensus Document. BAO-HNS publications, London

4 Jones T.M., Hargrove O., Lancaster J. *et al.* (2002) Waiting times during the management of head and neck tumours. *J Laryngol Otol* **116,** 275–279

5 Department of Health (2002) Smoking Kills. The Stationary Office, London

6 Barton M.B., Morgan G., Smee R. *et al.* (1997) Does waiting time affect the outcome of larynx cancer treated by radiotherapy? *Radiother Oncol* **44,** 137–141

Relation between change of hearing and (modified) Amsterdam Inventory for Auditory Disability and Handicap Score

31 January 2005

Sir,

I read with interest the article by Meijer *et al.*[1] investigating the suitability of the (modified) Amsterdam Inventory for Auditory Disability and Handicap – (m)AIAD – for the evaluation of individual patients undergoing otological surgery with the primary objective of improving hearing. This article investigates the test–retest reliability of (m)AIAD compared with changes following intervention, and concludes that this questionnaire (and by direct extension every disability questionnaire) has only limited utility for individual patients, because relatively few showed an increased score against a statistical criterion.

Unfortunately, the design of the experiment is quite unsuitable for the task in hand. The authors themselves acknowledge that they report only preliminary data on patients undergoing middle ear surgery, which was conducted not with the primary goal of improving hearing. They use this to *Determine if the surgical intervention has affected the communication performance* via a determination of *whether the observed change in the individual score of the (m)AIAD is larger than would be expected without intervention*.

Inspection of Fig. 2 suggests that for 46 of the 66 subjects, the improvement in the operated ear is 10 dB. While 10 dB may be regarded as a significant change in purely technical terms, whether any listener would be perceptually aware of a change of only 10 dB is questionable. If one regards 20 dB as a material and noticeable change, then only 10 of the 66 subjects demonstrate improvement. Furthermore, inspection of Fig. 1 shows that for 36 of the 66 listeners, hearing in the contralateral ear is 20 dB. Therefore, a substantial portion of the population had effective unilateral hearing. Any benefit from improved hearing would only emerge in circumstances, which load on binaural hearing or dominant monaural listening in the operated ear.

The authors suggest that as only nine of the 66 subjects fulfilled a criterion of meaningful statistical change in the (m)AIAD, then that instrument has limited value. However, only a comparable number (10 out of 66) had a material change in hearing at a criterion of 20 dB, even before taking the (often better) hearing in the not-operated ear into account. Although the statistical criterion from the (m)AIAD and the 20 dB criterion derive from different processes, it is noteworthy that the proportion improving is similar. An equally valid conclusion from the authors' data is that only a limited proportion of the population under test gained material improvement in hearing of a magnitude likely to have material affects on underlying disability.

Thus, the patient population is quite inappropriate for the task that the authors have set. If hearing improves by a material amount in only a small proportion of patients (in line with the primary objective of the surgery), then finding that auditory disability only improves in a (similar) small proportion is an inevitable consequence of the design. The finding gives absolutely no insight about the utility of the method used to assess disability.