

Cutting cancer waiting times: streamlining cervical lymph node biopsy

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Abstract

Background: Patients with enlarged lymph nodes present to a number of different specialties and diagnosis is often made following a biopsy.

Objective: This study aimed to establish department waiting times for cervical lymph node biopsy, and compare these to the cancer services guidelines.

Methods: A retrospective audit was carried out to record patient waiting times (defined as the number of days from referral to biopsy) between May and December 2010. A proforma for referral was introduced. In addition, appointments for biopsies were arranged by a co-ordinator. A prospective re-audit was carried out from March to September 2011.

Results: The first audit showed that national guidelines were not met; there was a median waiting time of 74 days (interquartile range, 47–113). Re-audit demonstrated a significant reduction in waiting times using the proforma; the median waiting time had decreased to 18 days (interquartile range, 9–22).

Conclusion: A proforma for lymph node biopsy and a designated co-ordinator streamlined the service, significantly reducing waiting times. Together, these can aid referral for meeting guidelines and improve patient care.

Key words: Head And Neck Neoplasms; Lymphoma; Clinical Audit; Waiting Lists; Lymphadenopathy; Diagnosis

Introduction

A large number of patients with enlarged cervical lymph nodes are seen in primary and secondary care. The differential diagnosis includes a range of benign and malignant conditions (Table 1). It is crucial that all specialties involved have a high index of suspicion for malignancy, and knowledge of further management is required.

Management of these patients requires a detailed history, and entails clinical examination and investigations that may include a biopsy. In some cases, lymph node biopsy is the only investigation that enables a definite diagnosis. The patient's journey involves a number of steps: from first presentation to the general practitioner, referral to a specialist clinic, investigations, referral to other specialties, multidisciplinary team meetings and ultimately to a decision on disease management.

In September 2000, the 'NHS Cancer Plan' set a number of standards for reshaping services, with the aim of cutting cancer diagnosis to treatment waiting

times.¹ Initiatives such as the 'two-week wait' for suspected cancer were set up to reduce the waiting time from referral to treatment. According to this rule, all patients referred by the general practitioner with suspected cancer are seen within 2 weeks, and treatment is started within 62 days. Once a decision to treat is made, the treatment should commence within the next 31 days.

The 'Guidance on Cancer Services – Improving Outcomes in Head and Neck Cancers' manual reported the need for specific referral routes for patients with persistent neck lumps.² According to this guidance, when it is appropriate to carry out a biopsy of a suspicious lesion, a designated clinician should arrange this, and all referral forms should be sent to a central point within the hospital. In our department, a large number of referral requests for biopsy are received for patients with cervical lymphadenopathy.³ Clearly, a delay in performing the biopsy, whether due to the need to assess the patient in clinic or the request of further investigations, will have an effect on the

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TABLE I
DIFFERENTIAL DIAGNOSIS OF CERVICAL
LYMPHADENOPATHY

<i>Malignant</i>	
Head & neck cancer	
– Squamous cell carcinoma	
– Melanoma	
– Cystic adenocarcinoma	
– Papillary (& occasionally medullary) carcinomas of thyroid	
Lymphoma	
– Hodgkin's	
– Non-Hodgkin's	
<i>Benign</i>	
Local inflammatory	
– Acute infections	
– Chronic infections	
Generalised inflammatory	
– Infectious mononucleosis	
– HIV	
HIV = Human immunodeficiency virus	

waiting times for diagnosis and subsequent treatment. This will eventually impact on cancer service targets.

This audit therefore aimed to establish the waiting times for patients requiring cervical lymph node biopsy within the department. A re-audit of the waiting times following the introduction of a change to the referral system was also performed.

Materials and methods

First cycle

The audit included all patients who had undergone lymph node biopsy in the department from 1 May 2010 to 31 December 2010.

The following data were collected retrospectively: patient demographics, date of referral, source of referral (e.g. general practitioner or hospital specialist), waiting time for investigations, time from referral to biopsy (in days) and final diagnosis.

Patient data, including pathology coding, were collected from operating theatre logbooks and from the local two-week tracking system. Further information was collected from hospital notes, including electronic records.

Second cycle

A named co-ordinator (one of the department's secretaries) was appointed to streamline the patient journey; all patient booking forms from the clinics and hospital referrals were directed to this individual. The co-ordinator was given access to the head and neck surgical operating schedules.

A proforma was designed in order to prioritise the biopsy requests. Its design entailed consultation with colleagues from the departments of haematology and infectious diseases (Appendix 1). This proforma was completed (with all the relevant information included) and faxed to the named co-ordinator. Based on this information, a consultant then decided if the likely diagnosis was either tuberculosis or lymphoma; if

either of these were suspected, the patient was scheduled for biopsy. If, however, there was suspicion of head and neck cancer (the patient was over 50 years of age, a smoker, or had a history of excess alcohol intake with throat symptoms), then the patient was given an appointment to attend the head and neck clinic.

Those scheduled for biopsy were seen on the day of the operation for the informed consent process. The indication for surgery was discussed at this time, along with the risks and complications involved, and any questions that the patients had were answered.

The audit was carried out prospectively for all patients who underwent a lymph node biopsy in the department from 1 March 2011 to 31 September 2011. Data collection and methodology were repeated as in the first cycle, and all modes of referral (referral from general practitioner or hospital specialists) were included. Statistical analysis of the data was performed using the Statistical Package for the Social Sciences version 17 software (Chicago, Illinois, USA); *p* values of less than 0.05 were considered significant.

Results

First cycle

This cycle comprised a total of 27 patients aged between 3 and 89 years, with a male to female ratio of 3:1. The majority (13 patients, 48 per cent) were referred by a general practitioner. Other referrals were from specialists in the departments of infectious diseases (15 per cent), haematology (22 per cent) and 'other' departments (15 per cent), the latter of which included paediatrics, care of the elderly and gynaecology.

Pathological diagnosis varied widely. Lymphoma was the most common pathology (9 patients, 33 per cent), followed by tuberculosis (15 per cent), thyroid cancer (7 per cent) and chronic inflammation (4 per cent). In one case (4 per cent), the enlarged lymph node had resolved prior to the biopsy date.

The median waiting time was 74 days (mean of 98 days), with a range of 47–113 days. There was no significant difference in waiting times between the group of patients referred to the head and neck clinic directly from a general practitioner, and those referred by a hospital specialist. Nevertheless, it was apparent that the former group of patients had to wait for cytology and imaging results before being scheduled for biopsy. There was also no significant difference in the waiting times for biopsy between patients with benign disease and those with malignant disease such as lymphoma. However, the lymphoma patients waited longer for an appointment to attend the ENT clinic.

Summary. The majority of patients waited too long for lymph node biopsies. This resulted in breaches of the 62-day target for the treatment of lymphoma patients.

Recommendations. These include: improving the flow of patients from ENT clinics to biopsy; fast tracking cytology and imaging results when requested; and streamlining internal referrals.

Second cycle

This cycle comprised a total of 42 patients (3 patients were excluded: 2 were awaiting a biopsy date and 1 patient had a node that was inaccessible).

The proforma was used in less than one-third (29 per cent) of the 42 referrals (it was used only by the infectious diseases and haematology departments). The majority of patients were referred via a standard clinic referral letter (33 per cent). The remaining patients were referred via: rapid access (20 per cent), telephone conversation (4 per cent), in-patient admission (5 per cent) or emergency admission (2 per cent). The number of general practitioner referrals was significantly lower compared with the first audit (7 per cent).

Lymphoma remained the most common pathology (9 patients, 22 per cent). A large number of patients did not have a diagnosis at the time of audit (24 per cent). Other diagnoses included: a reactive node (26 per cent), metastatic head and neck cancer (12 per cent), tuberculosis (12 per cent), vascular malformation (2 per cent), and thyroid cancer (2 per cent).

The median number of days from referral to biopsy was 22.5 days (interquartile range, 13–39) for all modes of referral, and 18 days (interquartile range, 9–22) when the proforma was used (Figure 1).

For cases of lymphoma only, the first audit showed a median waiting time of 103 days (interquartile range, 74–133), with the second cycle demonstrating a median waiting time of 18 days for all modes of referral (interquartile range, 7–27), and 8 days when the proforma was used (interquartile range, 7–18) (Figure 2).

Summary. Following the introduction of a proforma for neck node biopsy referral, using a designated co-

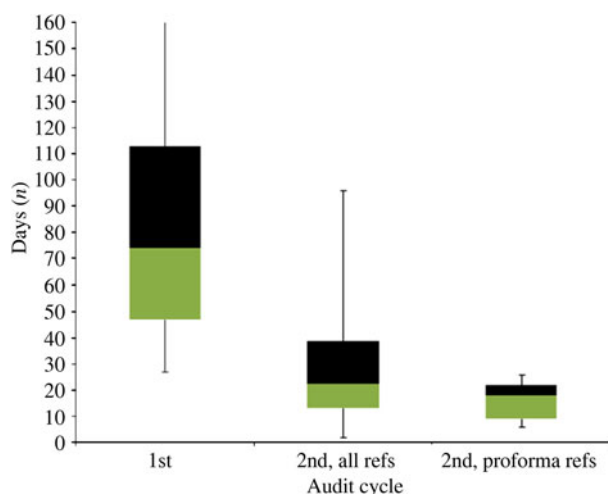


FIG. 1

Median number of days from referral to biopsy for all cases. Refs = referrals

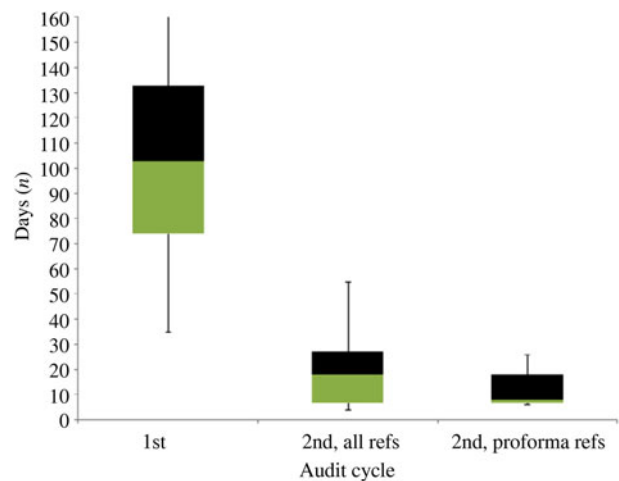


FIG. 2

Median number of days from referral to biopsy for lymphoma cases. Refs = referrals

ordinator, there was a statistically significant reduction in waiting times (in terms of the median number of days) for all diagnoses, and for cases of lymphoma when considered separately ($p < 0.01$, Mann–Whitney U test).

Discussion

The first audit cycle showed unacceptable waiting times for cervical lymph node biopsies. Therefore, a decision was made to streamline the service through the appointment of a designated co-ordinator and the introduction of a newly devised proforma.

The results of this study demonstrated a statistically significant reduction in the waiting times for cervical lymph node biopsy when the proforma was used for referral. The median waiting time for all diagnoses fell from 74 days in the first audit to 18 days when the proforma was used. With regards to lymphoma cases alone, the median waiting time fell from 103 days to 8 days.

The waiting time delay for cervical lymph node biopsy was, in the majority of cases, longest for those referred by their general practitioner. Most of these patients were referred via the rapid access service, and were hence seen in an out-patient head and neck clinic prior to any further investigation. This added step in the patients' pathway will clearly add to the waiting time delay. However, in some cases of cervical lymphadenopathy, an assessment of the upper airway is required before biopsy, in order to rule out primary head and neck cancer.

Fine needle aspiration cytology (FNAC) of cervical lymph nodes is often performed in the clinic when upper aerodigestive tract metastases are suspected. However, FNAC has been found to have poor sensitivity for diagnosing lymphomas. In one study, only 2 of the 37 confirmed lymphomas were positive on FNAC.⁴ In a study of a regional cancer network over a one-year period, FNAC was non-diagnostic in 52

per cent of patients.⁵ Ultrasound may also be used as part of the investigation; this has shown sensitivity in the differentiation of benign and malignant cervical lymphadenopathy,⁶ especially when used in combination with FNAC.⁷

Lymph node biopsy is currently recommended for a definitive diagnosis of lymphoma.³ Therefore, the provision of an efficient service depends largely on the referring clinician's ability to establish the most appropriate diagnostic pathway based on the patient's history and examination findings. The clinician has to decide whether the patient is suitable to be referred directly for lymph node biopsy, or whether they need specialist assessment or imaging prior to this.

- **Lymph node biopsy is necessary for a definitive diagnosis of lymphoma**
- **Guidelines suggest that a designated clinician arrange the biopsies when appropriate, and that referral forms are sent to a central point in hospitals**
- **Use of a proforma for neck node biopsy referral, through a designated co-ordinator, reduced waiting times**
- **This is recommended as an efficient mode of referral for meeting guidelines and improving patient care**
- **No primary head and neck cancer case was referred using the proforma: select patients can be directly scheduled for biopsy to reduce waiting time**

It is important that patients with suspected head and neck cancer, especially suspected squamous cell carcinoma (SCC), have a thorough clinical and radiological investigation. Such patients therefore need to be seen in the head and neck clinic. This audit found that no single case of SCC was referred using the proforma, demonstrating that carefully selected patients can be directly scheduled for biopsy in order to cut down the diagnostic waiting time. We recommend our approach as an efficient mode of referral for meeting guidelines and improving patient care.

Acknowledgement

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Appendix 1. Urgent neck lymph node biopsy request

Name: _____ PID: _____
 Address: _____
 Referring doctor: _____ Date: _____
 Previous diagnosis: _____ Ward (if in-patient): _____
 2WW referral: yes/no

History

B symptoms: Yes No

H&N symptoms:

- Sore throat
- Ear ache
- Difficulty in swallowing
- Voice change
- Any other

Smoking:

Alcohol:

List any medical problems with medication:

Neck lump(s)

Number:

Location:

- Midline
- Anterior triangle
- Posterior triangle
- Supra-clavicular

Maximum size:

Investigations results if known

Bloods:

CT/US/MRI:

MRSA swab:

Action

Suitable for direct listing: Yes – date of surgery

No – date of clinic appointment

Histology with date:

Lymphoma OPA:

Referral to biopsy time:

Please email to XXX or fax to extension XXX

Address for correspondence:
Dr G Dimbleby,
Department of Otolaryngology Head and Neck Surgery,
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Dr G Dimbleby takes responsibility for the integrity of the
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