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MAIN ARTICLE

Lymphoma presenting as neck lumps: causes of waiting time target breaches and potential solutions

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Abstract

Objectives: This study aimed to assess the speed of referral, diagnosis and treatment of patients with lymphoma presenting with a neck lump, and to identify where delays are occurring that prevent UK national targets from being met.

Method: The study entailed a retrospective survey of patients presenting with a neck lump secondary to lymphoma between 2006 and 2008 in Gloucestershire, UK.

Results: Forty-seven of 54 patients (87 per cent) were seen within 2 weeks of referral. However, the 62-day rule, which covers the time from referral to the initiation of treatment, was met in only 32 of the 54 cases (59 per cent). There were no breaches of the 31-day target, which concerned the time from decision to treat to the initiation of treatment. Subsequent target breaches were due to longer waiting times for radiological and pathological investigations.

Conclusion: Radiological examinations should be ordered at the first consultation and biopsies performed as soon as possible. Establishing one-stop, rapid access clinics should improve the achievement of a maximum 62-day wait for patients with lymphoma presenting with neck lumps.

Key words: Neck; Lymphadenopathy; Lymphoma; Neoplasms; Delayed Diagnosis

Introduction

Britain has one of the worst records in Europe in terms of waiting times from initial presentation to definitive treatment for cancer, and with regards to inequalities in treatment.[1,2] However, cancer survival estimates in the UK are a subject of controversy.[3,4]

Delays in treatment can lead to progression of disease and affect survival outcomes. The 62-day rule for time from referral to initiation of treatment was implemented as part of a target-driven approach to ensure cancer patients were treated promptly.[5]

The implementation of the two-week rule means that neck lump cases are now fast-tracked to hospital as suspected cancer.[6] When patients are referred via this route, systems should be in place to ensure that a diagnosis can be made on the basis of clinical, cytological and radiological findings. Definitive treatment can then be commenced rapidly.

The National Health Service (NHS) Cancer Plan stipulates that there should be a maximum 1-month wait from diagnosis (decision to treat) to the first definitive treatment; this is referred to as the 31-day target.[1] However, certain pathologies, such as lymphoma presenting as head and neck lumps, make prompt diagnosis and treatment difficult. These pathologies require different treatment modalities and the involvement of another multidisciplinary team (MDT). Handover between the two MDTs can be prolonged in these cases, which subsequently delays patient treatment. The impact of delays in treatment, particularly in cases of rapidly proliferating lymphoma, can be profound.[7]

Materials and methods

From 2009 to 2010, a retrospective survey was conducted in Gloucestershire, UK, in which patient data from January 2006 to December 2008 were examined. Inclusion criteria were: presentation with neck lump within the study timeframe, and subsequent diagnosis of lymphoma.

A review of all the local computerised MDT archives covering the period of interest was carried out to identify all patients matching the inclusion criteria. The data extracted included: date of referral, out-patient review, fine needle aspiration (FNA) date, excision biopsy

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results, radiology findings, pathology results, MDT meeting dates and dates of treatment.

The patient journey was reconstructed along a time line running from the date of referral by the general practitioner to the date of definitive treatment. Case notes were used to fill in gaps in the electronic record where information was missing.

Data were collated and analysed to identify sources of delay within the system. The results of patients were analysed according to whether or not a breach of the 62-day rule occurred (breach group *vs* non-breach group). Calculated p values are two-tailed.

Results

All patients

In total, 54 patients met the inclusion criteria. Of these, 47 patients (87 per cent) were seen in the out-patient clinic for initial assessment within 2 weeks of referral (2-week rule) with a mean waiting time of 10.9 days. The mean waiting time for the remaining 7 patients (13 per cent), in which the 2-week rule was breached, was 29.9 days. The 62-day rule was breached for 5 of these 7 patients.

Decisions regarding treatment were made in the MDT meetings based on clinical, radiological and histological findings. Treatments were decided within a mean of 14.5 days of obtaining a definitive histological diagnosis. The mean waiting time from the first clinic assessment to a decision to treat was 43.1 days. The mean waiting time from general practitioner referral to first definitive treatment was 60.9 days.

The mean waiting time from a decision to treat to the instigation of first treatment (the 31-day rule) was 9.8 days. There were no breaches of the 31-day rule for the 54 patients.

The mean number of days from referral to the first definitive treatment (for all 54 patients) was just within the 62-day target, with a mean of 60.9 days waiting time. However, this rule was breached for 22 patients (40.7 per cent), with a mean referral to first treatment time of 85.0 days. As there were no breaches of the 31-day target waiting time (time from decision to treat to the first treatment), this suggests that delays occurred during diagnostic investigation.

The mean waiting time from the first out-patient clinic assessment to histological diagnosis of lymphoma (based on samples obtained from lymph node biopsies) was 37.5 days. The mean waiting time from the first out-patient clinic assessment to receipt of a radiological report was 31.5 days (standard deviation (SD) ± 25.83 days).

Breaches versus non-breaches

The mean waiting time for cases where there was a breach of the 62-day rule (time from referral to first definitive treatment; breach group) was 85.1 days (SD ± 21.69 days) compared with 43.8 days (SD ± 13.20 days) for cases where no breach occurred (non-breach group). Figure 1 shows the results for the breach and non-breach groups, with a breakdown of waiting times throughout the patient journey. There was no significant difference between the breach and non-breach groups with regards to the two-week rule ($p = 0.51$, unpaired student's t-test).

Major delays in patient management occurred as a result of lengthy waiting times from first out-patient clinic assessment to establishment of a histological diagnosis. A significantly longer delay at this stage was found for the breach group; patients in this group had a mean wait of 49.7 days, compared with 28.0 days for patients in the non-breach group ($p < 0.001$, unpaired student's t-test). In addition, the breach group had a significantly longer wait for lymph node biopsy (35.4 days) than the non-breach group (16.9 days) ($p < 0.001$, unpaired student's t-test). Once a biopsy had been performed, it took 3.9 days longer to obtain a report for the breach group compared with the non-breach group ($p = 0.02$, unpaired student's t-test).

The waiting times associated with histological investigation (e.g. waiting times for FNA results, lymph node biopsies and a definitive report) can be seen in Figure 2. Fifteen patients in the breach group (68 per cent) and 20 patients in the non-breach group (63 per cent) underwent FNA. All patients went on to have a lymph node biopsy. Where FNAs were performed, in all but five cases this was carried out on the same day that the patient was first seen in clinic. The 62-day rule was subsequently breached in 4 out of the 5 cases of delayed FNA. Cytology reports were approved promptly and were not a major source of delay.

Patients in the breach group waited significantly longer than those in the non-breach group for their radiological examination after their first assessment in the clinic; mean waiting times were 40.85 days for the breach group compared with 21.5 days for the non-breach group ($p = 0.009$, unpaired student's t-test). Once the radiological investigation had been performed, the findings were promptly reported in both sets of patients. Figure 3 demonstrates waiting times from the time first seen in the out-patient clinic to the time of the radiological examination, and the time from the scan to the time a report was obtained.

Once a definitive diagnosis was established and a decision to treat was made, commencement of treatment occurred promptly in all patients; those in the breach group waited a mean of 12.05 days and those in the non-breach group waited a mean of 8.20 days. This was well within the 31-day rule governing time from decision to treat to time of first definitive treatment.

Discussion

The NHS Cancer Plan states that anyone with suspected cancer should be seen by a specialist within 2 weeks of referral by a general practitioner, and appropriate treatment should be started within 62 days.[1,5]

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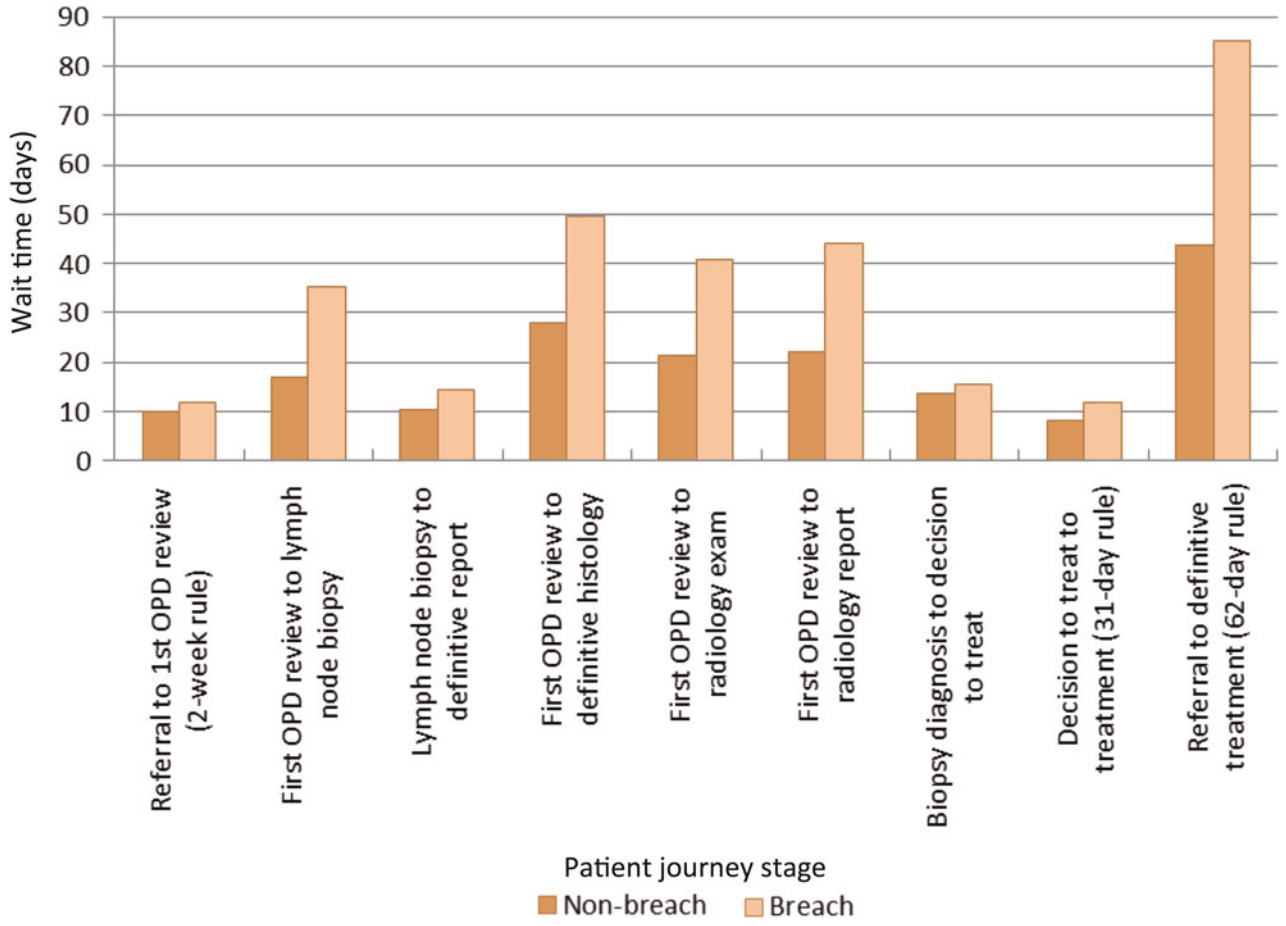

FIG. 1
Mean waiting times for all stages of patient journey, for breach of target and non-breach of target groups. OPD = out-patient department

In addition, patients should not wait longer than one month to receive their treatment once a diagnosis has been reached. Delays can occur because of initial misdiagnosis and initial referral to (and investigations by) a specialty other than that which will ultimately treat the patient. Delays may also arise in the handover of care to the appropriate team. This can be further compounded by delays in obtaining histology and radiology results associated with specimen inadequacy, staff shortages and other local factors.

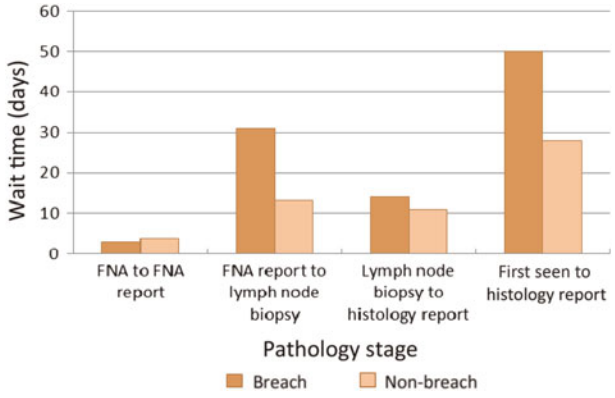

FIG. 2
Mean pathology waiting times for breach of target and non-breach of target groups. FNA = fine needle aspiration

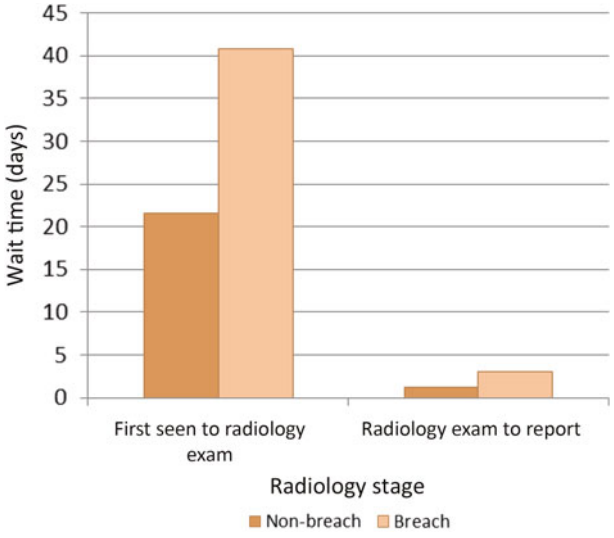

FIG. 3
Mean radiology waiting times for breach of target and non-breach of target groups.

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In the current study, the 14-day target for time from referral to first assessment was breached for 7 of the 54 patients (12.9 per cent). This may have been attributable to delays in receiving a referral letter or to difficulties in attending an appointment at the allocated time. There is evidence that an increase in patient choice has led to a convergence in waiting times across clinics, which may make the findings of this study more generalisable.[8] However, the results of this study suggest that the waiting times for an initial appointment are of limited value when estimating the delay in receiving definitive treatment: whilst the majority of patients were seen promptly, 22 out of 54 patients (40.7 per cent) missed the 62-day target (time from referral to first definitive treatment).

There were major delays associated with the processes of radiological investigation and lymph node biopsy. This is reflected in the statistically and clinically significant differences in waiting times at these stages between the breach and non-breach groups. Whilst there was a statistically significant difference between groups in the time from lymph node biopsy to receipt of a histology report, the clinical significance of this delay is likely to be minimal. A longer period of time was taken for the radiological investigation of patients in the breach group; this difference was statistically and clinically significant. This result reinforces the importance of requesting radiological investigations at the first out-patient appointment. In cases of suspected lymphoma, incision or excision biopsies must be arranged promptly.

The literature on the assessment and subsequent management of lymphoma presenting as neck lumps within the 62-day target is limited, and so it is unclear whether failure to meet this target in this population is a nationwide problem. However, there is some research to suggest that this is the case. Savage *et al.* collected data on patients diagnosed as having lymphoma on the basis of neck node biopsies.[9] They found that patients with neck lumps who were later diagnosed with lymphoma were sometimes referred to a wide range of specialties before being appropriately referred to and managed by the haematology and oncology departments. Specifically, the authors found that 45 per cent of patients were referred to the ENT department, 17 per cent to general surgery and 14 per cent to the haematology department. The Department of Health white paper on cancer waiting times acknowledges that a patient may be referred on suspicion of one type of cancer, but ultimately diagnosed with a malignancy of a different origin.[5] However, it stipulates that the 62-day target still applies in these cases; trusts are required to have rapid handover arrangements between specialties to ensure targets are met.

Our results suggest that rapid handover does not appear to be a problem in the population studied, and once diagnosis is established, treatment generally commences rapidly. These results are likely to be generalisable across the UK. Williams *et al*. conducted an audit to measure waiting times for systemic cancer therapy.[7] They found that the 31-day target (covering time from the decision to treat to initial treatment) was met in 98 per cent of cases; however, the 62-day waiting time target (time from general practitioner referral to first definitive treatment) was met in only 76 per cent of cases.

Similarly, patients in the current study were treated promptly following a definitive diagnosis (there were no breaches of the 31-day target). This suggests that the delays occurred during the course of obtaining clinical, radiological and histological diagnoses. In order to tackle this problem, the National Institute of Clinical Excellence guidance on cancer services advocate one-stop neck lump clinics that entail an experienced otolaryngologist and consultant pathologist for rapid cytology.[10] One-stop clinics are a practical solution that can promote rapid discharge or further management of a patient;[11] however, the evidence for their widespread introduction has been questioned.[12]

- **The UK 62-day rule for time from referral to initiation of treatment prevents delays in cancer treatment**
- **In this study, the 62-day rule was breached for 22 of 54 cases of lymphoma presenting as neck lumps**
- **There were major delays in radiological investigation and lymph node biopsy**
- **Once diagnosed, patients were treated promptly**
- **These delays may be a national problem**
- **One-stop neck lump clinics may enable prompt diagnosis in this patient group**

Our own findings suggest that the 62-day rule is often breached for patients with lymphomas presenting as neck lumps. Establishing diagnosis appears to be the most time-consuming stage in the care pathway and additional resources may need to be devoted to this stage. In this study, the time taken to instigate treatment after a diagnosis of lymphoma was a maximum of 20 days. If that figure is taken as a guideline, this suggests that we have up to 42 days from referral to establish the diagnosis. If one allows up to 14 days between general practitioner referral and the patient being seen in clinic, this leaves 28 days for secondary care to establish the diagnosis. Perhaps resources should be directed at seeing general practitioner referrals in clinic sooner (in less than 14 days), in order to provide more time to establish a clear diagnosis.

This study could provide the basis for a national audit, as there is a strong possibility that these delays are a national problem that may affect presentations other than neck lumps.

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