One Stop Neck Lump Clinic- A boon for quick diagnosis and early management

KEYWORDS

outpatient clinics hospital, fine needle aspiration cytology, neck, lymph node, ultrasound, Head and Neck Neoplasms, diagnosis

Conflict of Interest: None reported

Abstract

Introduction:

One stop neck lump clinics (OSNLC) are gaining popularity worldwide especially in the UK hospitals following NICE recommendation. The main aim of this speciality clinic is quick diagnosis and early management while simultaneously improving patient experience.

Objectives:

To analyse and compare the efficacy of OSNLC and general ENT/Head and neck clinic with specifics to number of appointments required for formulating management plan and number of ‘one stop’ visits.

Design:

Retrospective observational study

Setting:

Regional Head and Neck Cancer Center (Secondary care hospital)

Participants:

Patients referred by General practitioner with symptoms of neck lump

Main outcome measures:

Patients seen in general ENT/Head and neck and OSNLC in 2 phases to understand the difference in number of appointments, one stop visits, requirement of Ultrasound and efficiency of Fine needle aspiration.

Results and Conclusions:

Improved efficacy of OSNLC was noted as patients seen in clinic required lesser number of appointments, reached a faster diagnosis and management plan when compared to patients seen in general ENT clinic.

Succinct Key Points

1. Patients in OSNLC require statistically significant less number of appointments for formulating a diagnosis/ Management plan as compared to patients in general ENT clinic.
2. More number of patients can have 'one stop visit' if seen in OSNLC as compared to general ENT clinic.

3. Ultrasound and Fine needle aspiration (FNA) requirement of patients in both OSNLC and general ENT clinic is same.
4. Adequacy rates of FNA with cytology technician are excellent.
5. OSNLC can be regarded as an efficient method of managing patients with neck lump.

Introduction

The idea of implementing one stop diagnostic clinics generated in early part of the 21st century (1). One of the seven key recommendation of National Institute of Clinical Excellence (NICE) Cancer Service Guidance-6 (CSG6) on 'Improving Outcomes in Head and Neck Cancers in 2004' stated that diagnostic clinics should be established for patients with neck lumps (2,3). This speciality clinic is held every alternate week at ENT department of Northampton General Hospital. There have been opponents of this recommendation claiming this guidance does not have the weight of objective evidence to justify such a specific recommendation (4). Overtime the popularity of this service is increasing in other developed countries (5). Finance, inter departmental co-ordination, and selection of patients are the major hurdles in forming a multidisciplinary clinic. One stop neck lump clinic (OSNLC) was implemented in our regional cancer centre as part of Head and Neck directorates' commitment in implementing NICE guidance. We carried out retrospective comparative analysis of OSNLC with general ENT/Head and Neck clinic. We also share our method of running this service. The aim of the study was to analyse the efficacy of OSNLC in comparison to general ent clinic.

Materials & Methods

All patients referred to our hospital by general physician (GP) on cancer suspicion with symptoms and/or signs of neck lump were included in the study. The patients were either seen in seen in general ENT/Head and neck clinic or in OSNLC which is led by a Head and Neck Surgeon in collaboration with radiologist to offer ultrasound (US) with or without guided fine needle aspiration (FNA), and cytologist to assess adequacy of FNA.

Patients were divided in two groups based on the clinic in which they were seen. Patients seen in OSNLC were placed in Group A and patients seen in general head and neck clinic were placed in Group B. OSNLC is run as a two room clinic. Room 1 had head and neck consultant who provides patient an initial consultation and thereafter recommends if patient needs an US. If required patient is directed to room 2 to have an US with a head and neck radiologist and a guided FNA if indicated, the adequacy of this is checked by cytology technician. Patient then comes back in room 1 to discuss results of US and plan further management.

Phase 1 of the study was conducted between Jul 2017 to Dec 2017 and retrospective data for preliminary assessment was collected. In phase 2 further retrospective data was collected for patients seen between Jul 2019 to Dec 2019. The reason to divide it into two separate time intervals was to find if there are sustained results over a improvement in results. Patient information was collected from Cancer Audit and Validation officer who provided patient identification number as per cancer pathway data and clinic code of OSNLC. Patient identification number was then coded to serial number to preserve further confidentiality by keeping patient identification number and data separate. Excel sheet was used to collect data to answer objectives of the study. Data collection was done by a doctor who is not part of the provision one stop neck service provision but has sufficient head and expe-

rience to understand the data requirement using case letters and notes, investigations and minutes of multidisciplinary team discussion if applicable. Data was collected in accordance with STROBE guidelines for reporting observational studies and was populated on excel sheet and further analysed using SPPS version 22.0.

Results

In phase 1 of the study a total of 81 patients with suspicion of neck lump were referred on a cancer suspicion pathway. Out of these 60 were seen in OSNLC which formed our Group A (P1GA) and 21 were in General Head and Neck clinic which formed our Group B (P1GB). Similarly in phase 2 a total 65 were seen with 35 in group A (P2GA) and 30 in group B (P2GB) (Table 1).

A mean of number of appointments required for formulating a diagnosis/ Management plan was 1.33 in P1GA, 1.9 in P1GB, and 1.3 P2GA and 1.53 in P2GB. The difference was analysed with Mann Whitney U test and found to be statistically different between the two groups in both phases (Table 2).

Our criterion to class a visit as one stop, a patient should have a clinic outcome of either discharge or list for surgery or provide definite treatment. With this definition of one stop visit, the number of patients that had 'one stop visit' in P1GA P1GB P2GA P2GB. P1GA were 38%, P1GB 19%, P2GA 71%, P2GB 53% (Table 3). Though group A patients in both phases had more one stop visits but his result was not found to be statistically significant ($p>0.05$) using chi-square test.

Average clinic time taken per patient per room was 16 mins so overall an average of around 10 patients were booked in the clinic of 3 hours. In Phase 1 63% of patients referred

with suspicion of neck lump GP actually had neck lump when assessed in specialist clinic and 83% in Phase 2 indicating good quality referrals.

61% of P1GA ,52% P1GB, 97% P2GA and 66% P2GB patients referred had US as an investigation (Table 4). 56% of P1GA , 14% P1GB, 34% P2GA and 23% P2GB of patients referred with neck lump on 2ww had FNA (Table 5. The difference in these were not statistically different ($p>0.05$). The adequacy rates of FNA change with cytology technician on site were 94% and 83% in Phase 1 and Phase 2 respectively . Overall nearly a quarter of patients referred with neck lump required some sort of surgery with higher in Group A as compared to Group B in both phases.

In phase 2 further information on site and type of pathology indicated lymph node enlargement was the commonest site followed by thyroid and salivary glands. Most of the pathologies on surgery were benign (Table 6).

Data for the study was available electronically to the authors as employees at the institution. Patient privacy and data confidentiality was ensured.

Discussion

All providers of cancer services in the UK have a duty to implement the NICE guidelines, with the intention of improving patient outcomes (6). Current targets aim at a time of maximum of 62 days from initial referral to the start of definitive treatment and once a diagnosis of cancer is made, a target of 31 days to commence treatment. Diagnostic clinics aim for faster diagnosis and therefore should help in achieving the timelines easily . The recommendation of NICE to establish diagnostic clinics to establish neck lump was based of this

premise (2). There are no standards set for the performance of this diagnostic clinic and data available is very limited.

This study was specifically carried out in 2 time phases to judge if there has been sustained/improved performance of OSNLC over a period of time by taking measures such as streamlining patient pathway, having standby clinicians to substitute in leave . Since the results of phase 1 were found to be good it was further important to ensure that the service give sustained benefits. However, no significant difference is performance was noted. Phase 1 of the study gave an idea on what to expect from this service and implement further actions to improve on it. Phase 1 experience helped in overcoming data collection difficulties in Phase 2 data collection by defining a separate clinic code and description. Both phases showed that the numbers of outpatient appointments were reduced if patients were seen in OSNLC instead of general head and neck clinic.

It is well known that faster diagnosis and management of cancer leads to better outcome (7). Our study shows OSNLC leads to faster diagnosis and management plan and many of the patients can have one stop visit. Being detected with a neck lump can be a stressful thing for patients and reassurance in first visit can be a big relief. A large proportion of patients required US and some further FNA justifying presence of radiologist. It a well known fact that US guided FNA yields better diagnostic samples (8). Presence of on site cytology can further improve results. (9) FNA adequacy rates were excellent and this can be attributed to the presence of cytology technician who could guide whether the aspirate was cellular or not. Though presence of cytopathologist can be considered ideal but we felt it was not a cost effective method as less than one-third of patients required FNA. We also felt if the final results of FNA are reassuring, results can be communicated to patients with a

telephone call in addition to a letter to patients, thereby omitting requirement of follow-up visit which is beneficial both to the patient and service provider.

A crucial aim of the General Physician is to marginalise danger by recognising and responding to signs and symptoms of possible serious illness (10). The results showed us the high quality of GP referrals received as far as neck lump referrals are concerned is around 83% of cases referred with suspicion of neck lump were found to have lump on clinical examination or US. It may be that other lumps being infective or reactive regressed by the time patient was seen in speciality clinic. Though most of them were referred on cancer pathway but only few had malignant concerns. Though the adequacy rates of FNA showed a slight drop to 83% in phase 2 as compared to 94% in Phase 1. This figure is still comparable and even better than published literature and importance of onsite technical help in ascertaining adequacy of cytology sample can be attributed to this (5,6).

Around one third of patients with neck lump required surgical intervention. We do think we could have collected more data on patient experience. We did attempt on this but authors felt that the data on end experience would be more valuable data in comparison to first appointment feedback.

With these results we now aim to see all patients referred with neck lump in this special clinic by increasing the frequency of this clinic.

Conclusion

OSNLC can be regarded as an efficient method of managing patients with neck lump. It decreases the number of hospital visits and more patients can be reassured in the first visit. Quality of diagnostic services like cytology also improves with OSNLC. We recommend

this service to become standard of care all across the UK as the evidence is clearly promising.

References

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TABLE 1. DEMOGRAPHIC STRUCTURE OF STUDY GROUP

	Phase 1 (n=81)		Phase 2 (n=65)		p value
Age	Group A (n=60)	Group B (n=21)	Group A (n=35)	Group B (n=30)	
<20	3	1	1	0	0.638
20-40	10	3	3	4	
41-60	19	9	22	18	
>60	28	8	9	8	

Table 2 : Average number of appointments required for formulating diagnosis/ Management plan .

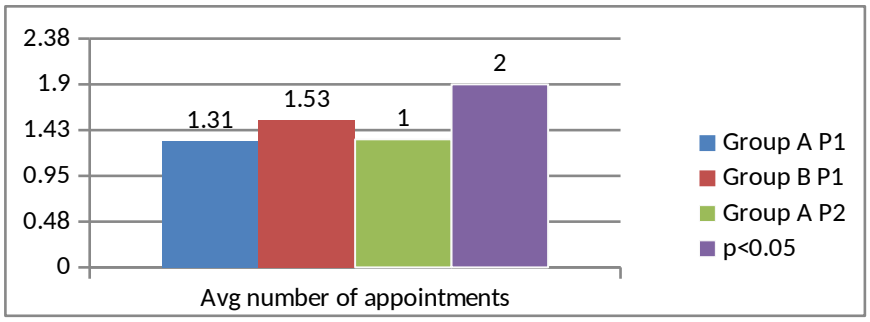

Table 3. One stop visits in both phases

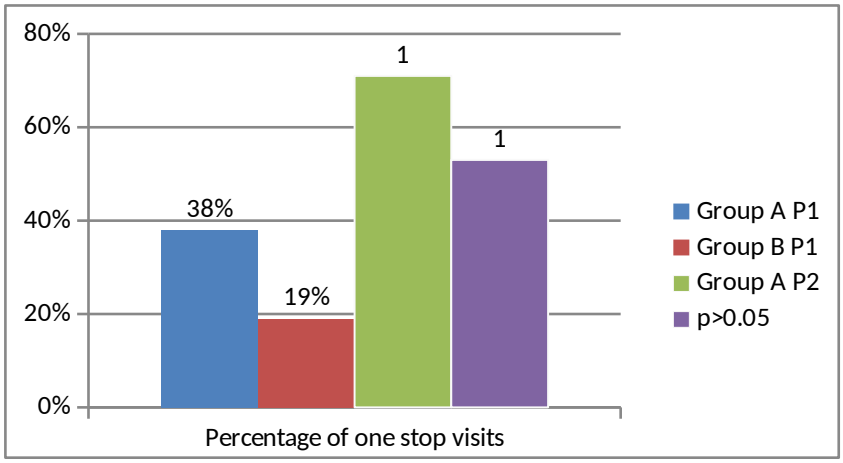

Table 4: Percentage of patients requiring US in both phases

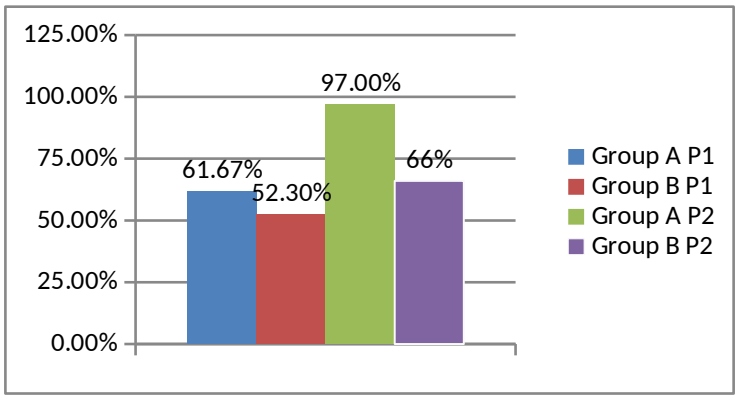

Table 5:Percentage of patients requiring FNA in both phases

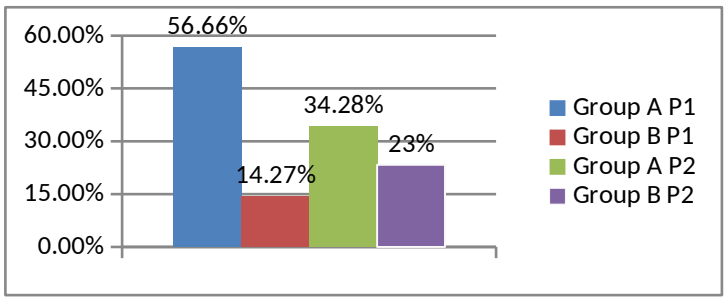

Table 6: Site of pathology of surgical patients

	Group A	Group B
Lymph Node	8	8
Thyroid	6	4
Salivary Gland	8	5
Other	10	5