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Research Article

Knowledge and Attitude of the General Dentists Towards Oral Biopsy Procedure: A Cross-Sectional Study

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Abstract

Introduction: The treatment of oral lesions depends upon its confirmatory diagnosis. To reach final diagnosis, various diagnostic measures are available amongst which oral biopsy procedure is considered to be one of the pivotal investigations not only for tumours but all other type of oral lesions such as pre-malignant lesions, non-healing ulcers and soft tissue masses (mucocele, fibrous hyperplasia, etc.) among others.

Aim: To explore the knowledge and attitude of general dentists towards oral biopsy procedure as a diagnostic method for oral lesions.

Material and Method: A cross sectional 21 open and close ended questionnaire based study was conducted over the period of 6 months amongst 65 private dental practitioners of Central India.

Result: All respondents appreciate the importance of oral biopsy but only 65% perform biopsy by their own remaining refers patient to specialist. Only 31% got training about performing biopsy in the dental school during under graduation and hence finds difficult to perform biopsy on their own. Around 88% respondents send the specimen further for histopathological examination. All the respondents are interested in increasing their knowledge regarding biopsy by self reading, scientific lectures or attending workshops.

Conclusion: Difference between knowledge regarding biopsy and their practical implication is significant. Practical skills can be improved by attending clinical workshops on biopsy or by including the procedure in undergraduate curriculum.

Keywords: Oral Biopsy; General Dentist; Oral lesions

Introduction

A Clinical practice has three domains- diagnosis, prognosis and treatment where in diagnosis is the primary guide to treatment and prognosis and thus considered the core component of any clinical practice [1]. The treatment of oral lesions depends upon its confirmatory diagnosis. Failure to diagnose the pathology will delay the appropriate treatment to the patient and may have profound implication [2]. To reach final diagnosis various diagnostic measures are available though knowledge and clinical skill of dentist form the basis of accurate diagnosis [3,4]. Amongst the various diagnostic tools available, Oral Biopsy procedure is considered to be gold standard to reach final diagnosis. Biopsy is the removal of a tissue sample from a living body with the objective of providing the pathologist with a representative, viable specimen for histopathologic interpretation and diagnosis [5].

There must be awareness that indication for oral biopsy is not only tumors but all other type of oral lesions such as pre-malignant lesions, non-healing ulcers and soft tissue masses (mucocele, fibrous hyperplasia, etc.) among others [6,7].

The importance of different diagnostic procedures and investigations should be emphasised during undergraduate and postgraduate training [8-10]. Upon scoring literature, there is less evidence regarding whether general dentist (GD) want to manage most oral

lesions or think postgraduate courses would help them to manage such lesions. The dental clinician should be aware of the various biopsy techniques that are available for the oral tissues, as well as the challenges specific to these tissues [1,2].

Considering this, the study was to design to assess knowledge and practical skills of GD regarding oral biopsy procedure. The reasons for not performing this procedure by themselves were evaluated and their motivation regarding learning this procedure was observed.

Materials and Methods

A cross sectional study including 21 questions of open ended and close ended type questionnaire was structured. After approving questionnaire from Institutional Ethical Committee, the study was carried on 65 GD in period of November 2015 to May 2016.

Close ended questions in questionnaire were i) Awareness of biopsy among GD ii) How they reach their final diagnosis iii) Whether they appreciate the importance of oral biopsy iv) Is the biopsy only way to confirm the final diagnosis v) Whether they have attended any seminars or workshops related to biopsy vi) Whether they got any training during their under graduation and such many questions.

Open ended questions were i) How many type of biopsy are they aware of ii) Which biopsy they frequently perform.

To motivate GD for their contribution towards the study, the questionnaire was delivered in person to the GD by the researcher though anonymity in completing the questionnaire was provided to the respondent.

The general dental practitioners in Central India were included in the study whereas postgraduate trainees as well as specialist in dentistry were excluded.

The data collected was analyzed using the Statistical Package for the Social Sciences statistical software (SPSS version 16.0).

Results

In the questionnaire survey done in our study it was found that 100% of the respondents (n = 65) were found to be aware of the biopsy amongst whom 86% were completely aware and only 14% of the respondents were partially aware and also all the respondents appreciate the importance of oral biopsy.

Inspite of the large awareness of the biopsy and importance known to GDPs, only 57% of the respondents prefer reaching final diagnosis through oral biopsy. 21% relied on clinical examination whereas sign and symptoms and other diagnostic techniques were 11% each.

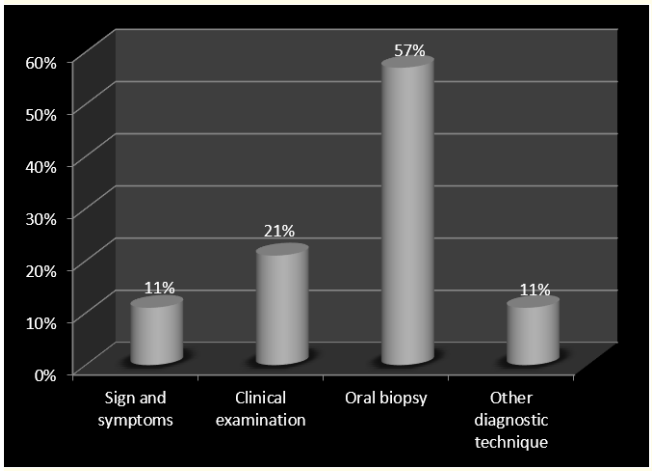

Figure 1

Knowledge regarding the need for biopsy was assessed where in 18% chose it to confirm provisional diagnosis,8% to rule out differential diagnosis and 74% responded to both of them.

Out of the total number of respondents (n = 65) 92% (n = 60) responded that there is need for general public awareness about oral biopsy; while the rest of the respondent i.e. 8% (n = 5) responded that there is no need for general public awareness about oral biopsy.

An open ended question was addressed to know the types of biopsy known to GDPs. 27% (n = 55) are aware of incisional biopsy, 25% (n = 50) excisional biopsy, 19% (n = 39) punch out biopsy, 12% (n = 24) fine needle aspiration biopsy, 8% (n = 15) scrape out biopsy and remaining 9% (n = 19) are aware of other biopsy types like aspiration, sectional, swab, frozen and bone marrow tissue.

Many of respondents have answered more than one type.

Biopsy being a surgical procedure requires some training and the same was asked to the GDPs regarding their training in oral biopsy during the under graduation period. Only 31% (n = 20) got training from their teachers about how to perform oral biopsy during their undergraduate period; while 1% (n = 1) don't remember and the rest i.e. 68% (n = 44) did not get any training.

Out of the total number of respondents (n = 65); 43% (n = 28) did attend seminar or workshops related to biopsy after their graduation and 2% (n = 1) don't remember; while the majority of responders i.e. 55% (n = 36) responded that they did not attend any seminar or workshops related to biopsy after their graduation period. The ones who did not attend any seminar or workshops after the graduation period were asked the reason for the same. majority of respondents i.e.60% (n = 22) have reasoned for no available courses and the others reasons cited for not attending are 16% (n = 6) no time to attend, 8% (n = 3) no need for such courses and rest of 16% (n = 6) were not able to reason for not to attain any seminar or workshops related to biopsy after graduation period.

A response of 91% came for no need of biopsy for every lesion whereas only 8% found it necessary for every lesion. Out of the total number of respondents (n = 65) 63% (n = 41) had suggested for biopsy for 5-10 times in last year, 16% (n = 10) had suggested for 10-15 times, 9% (n = 6) for 15-25 times; while remaining 12% (n = 8) had suggested for more than 25 times.

65% of the total respondents have performed biopsy atleast once amongst whom 37% (n = 24) have performed incisional biopsy, 25% (n = 16) performed punch out biopsy, 23% (n = 15) performed excisionsal biopsy and remaining 15% (n = 10) performed other types of biopsy like fin e needle aspiration cytology, scrape out, aspiration biopsy and exfoliational biopsy.

Following biopsy 88% (n = 57) of respondents send the removed oral lesion for histopathological examination while the rest i.e. 12% (n = 8) did not. Out of total number of respondents (n = 65); 27% (n = 20) refer there biopsy specimen to private general pathologist, 42% (n = 31) to private oral pathologist and rest 31% (n = 23) to government/semi government institution. Many of the respondents have cited more than one option for this question (20).

The referral pattern of biopsy by GDPs was the noted where majority of respondents 57% (n = 37) do refer their patients to other professional for biopsy and 23% (n = 15) do sometimes refer their patients while remaining 20% (n = 13) never refer their patients to other professional for biopsy. Out of the total number of respondents who have cited for refer their patients to professional for biopsy (n = 52) the reason cited by these responders were; 46% (n = 24) refer to oral surgeon, refer to general surgeon 6% (n = 3), 44% (n = 23) refer to oral pathologist and 4% (n = 2) refer to oral medicine and oral diagnostic.

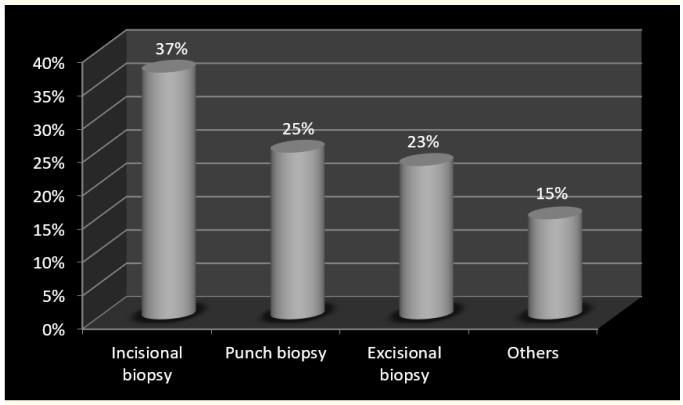

Figure 2

A total of 74% respondents have avoided doing biopsy in which 54% have definitely avoided and 20% have avoided at some time. Amonsgt these 74% respondents, the reasons cited by these responders were lack of experience 27% (n = 14), lack of facility 25% (n = 13), patient non-compliance 16% (n = 8), avoiding trauma 14% (n = 7), due to expenses 10% (n = 5) and fear of losing patients' 8% (n = 4). Many of the responders have cited more than one reasons of the above.

35% (n = 23) found their clinical diagnosis and biopsy results were same for more than 60% times.14% (n = 9) found their clinical diagnosis and biopsy results were same for 20% times, 26% (n = 17) same for 40% times; 25% (n = 16) same for 60% times.

The future work in increasing biopsy practice by GDs was addressed through this questionnaire. Out of the total respondents (n = 65); 27% (n = 26) are interested about increasing their knowledge regarding oral biopsy by self-reading, 31% (n = 29) by scientific lectures and 42% (n = 40) by attending workshop. Many of the respondents have cited more than one option for this question.

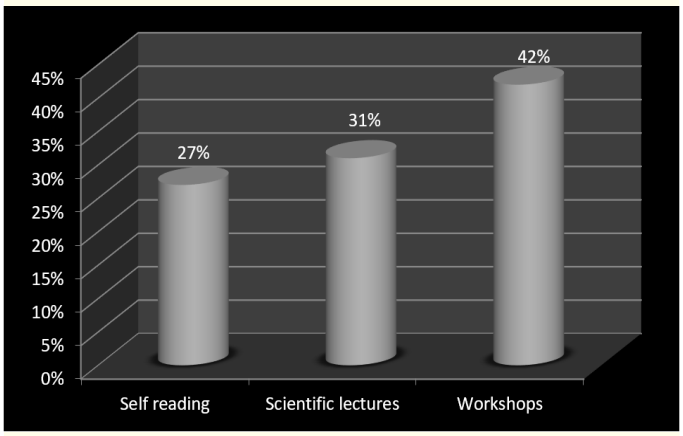

Figure 3

Discussion

Biopsy has its own importance for confirming diagnosis of the lesion. Though some argue whether GD should perform oral biopsy or refer the patient to the specialist. According to some studies GD should be competent enough to perform biopsy thus helps in early detection of cancer [12,13]. But some authors suggest that the referred surgeon should see the lesion intact for better treatment planning. Although the obtainment of biopsies is widely used in all medical fields, the practice is not so widespread in dental practice-fundamentally because of a lack of awareness of the procedure among dental professionals [14].

Thus, it can be stressed upon that GD should be motivated to take biopsy so that early diagnosis can be done but they should also be aware that when patient should be referred to specialist. The majority of GD in our study mentioned that they depend on biopsy results for their final diagnosis whereas Jornet., *et al*. [15] reported that only 32.1% of GD in their study considered the oral biopsy as one of the diagnostic methods to get final diagnosis.

On comparing the present study with that of Jornet., *et al*. [15] 88% GD send the specimen for histopathological examination which is much higher than shown in Jornet., *et al.* study. It can be suggested that all excised tissue should be send for histopathological examination in order to get confirmatory diagnosis. No matter how confident the clinician may be with their clinical diagnosis, any tissue removed from a patient should be submitted for histopathologic examination [16].

In this study 65% of GD have performed an oral biopsy which is much higher than 11% GD in Bataiheh., *et al*. [17]. This could be attributed to different undergraduate curriculum followed in different countries.

Around 68% GD in our study stated that they did not get any clinical training related to oral biopsy in dental school though Diamanti., *et al*. [12] study showed 50% GD did not receive any training. These results show that the clinical training related to biopsy should be emphasised in dental schools. Early exposure of biopsy procedure during under graduation will boost them to perform correct biopsy in their clinical practice because sampling error frequently results in specimens of little diagnostic value [16,18].

When considering the referral of patients to a specialist to perform an oral biopsy, this study shows 77% GDPs to do so (including those who refer sometimes). This finding was less than the findings in Diamanti., *et al*. [12] study and Coulthard., *et al*. [19] which were 85% and 84% respectively. GD refer the patients for biopsy to specialist especially to Maxillofacial Surgeons as GD avoid surgical procedures and is afraid of managing complications related to the procedure. Other reasons for the referral could be fear of medico-legal implications, lack of knowledge regarding biopsy technique, lack of confidence in personal practical skills and the belief that biopsy is specialist procedure.

Conclusion

It can be concluded that GD should be encouraged and motivated to perform biopsy for benefit of patient by reaching early diagnosis and thus treatment won't be delayed. For this purpose training on when and how to perform biopsy should be emphasised in undergraduate curriculum. Though importance should be given to when GD should refer the patient to the specialist for the biopsy.

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