

The accuracy value of the dentist's clinical diagnosis in oral lesions performed on biopsy

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ABSTRACT

Introduction: The diagnosis of a pathological disorder can be made in various stages, namely history taking, clinical examination and supporting examination. Clinical diagnosis is a diagnosis obtained from anamnesis and the results of clinical examination. Histopathological diagnosis is a diagnosis obtained from a microscopic examination of tissue. Clinical diagnosis and histopathological examination results may differ. The aim of the study was to obtain the accuracy value of the dentist's clinical diagnosis by calculating the number of differences between the clinical diagnosis and the results of the histopathological examination of patients who were biopsied in the Department of Oral Surgery of General Hospital Dr. Hasan Sadikin Bandung. **Methods:** A retrospective descriptive study of cases of pathological abnormalities biopsied in the Department of Oral and Maxillofacial Surgery of General Hospital Dr Hasan Sadikin Bandung. The total number of study samples was 109 medical records of patients with biopsy. **Results:** The accuracy value of the clinical diagnosis of dentists was 76%, where the difference between the clinical diagnosis and the histopathological examination was 24%. The most common type of disorder with the greatest difference in diagnosis is ameloblastoma followed by papilloma and mucocoele. **Conclusion:** The accuracy value of the clinical diagnosis of dentists in oral lesions performed biopsy is 76%.

Keywords: Biopsy, histopathological diagnosis, clinical diagnosis

INTRODUCTION

Some diseases that have similar clinical appearance often make a difference in establishing the diagnosis. This can lead to errors in conducting treatment that can be fatal for patients. Some cases in establishing the diagnosis required supporting examinations such as radiographic examination, laboratory or histopathological examination. A dentist is expected to carry out several steps to establish a diagnosis which includes conducting an anamnesis, clinical examination appropriately

and be supported by radiographic examination and histopathological examination if necessary so that it can establish the diagnosis and treatment correctly.¹

Clinical examination is not strong enough to diagnose some abnormalities/lesions in the oral cavity, although some oral cavity lesions have a specific characteristic appearance. This is because the clinical examination is an examination that is only done visually and touches from the external surface without knowing the changes in the tissue inside.¹

Histopathological examination is a very

detailed examination in looking at the state of cells and pathological tissues of the oral cavity microscopically. For histopathological examination, the tissue is obtained by biopsy. A biopsy is the removal of a portion of body tissue for microscopic examination in a laboratory. The main types of biopsies in the oral cavity are smear biopsies, aspiration biopsy (FNA), incisional biopsy, excisional biopsy and punch biopsy.²

Clinical diagnosis and histopathological examination of a lesion or pathological abnormality may be different in results. Research conducted at the Department of Oral and Maxillofacial Pathology of the Virginia Commonwealth University in the period January 2009 to January 2010, found that there are differences in the determination of clinical diagnosis. About 43% of dentists get a different diagnosis. General dentists found different diagnosis of 45.9%, oral and maxillofacial surgeons found a different diagnosis of 42.8%, endodontist 42.2%, and periodontist 41.2%. The most often different clinical diagnoses and histopathological results are benign hyperkeratosis (16%), focal inflammatory fibrous hyperplasia (10%), fibroma (8%), periapical granuloma (7%), radicular cysts (6%) and malignant lesions 5, 6% .³ The difference between clinical diagnosis and histopathological diagnosis can be caused by the lack of each examination. The weakness of clinical examination is because the clinical examination only sees the symptoms and appearance of an abnormality on the surface of the skin, as well as the limited ability of the operator to see the symptoms and clinical appearance. This happens because several disorders have similar clinical symptoms and appearance. The disadvantage of histopathological examination is that when a biopsy results are of poor quality, it will lead to improper interpretation under the microscope.⁴ Oral and Maxillofacial Surgery Department of General Hospital Dr. Hasan Sadikin Bandung treats patients with various cases of pathological disorders that require accurate diagnosis so that the treatment is accurate. Pathological abnormalities that are found include infection, inflammation, cysts, benign tumours, and malignant tumours. Some cases of pathological abnormalities, especially tumours, have become general procedures in making the diagnosis must be made by histopathological examination with

biopsy. Research that examines the accuracy of the clinical diagnosis of dentists through data on the percentage of differences between clinical diagnosis and histopathological diagnosis and the types of abnormalities that cause differences in diagnosis has never been done in the Department of Oral and Maxillofacial Surgery, General Hospital Dr Hasan Sadikin Bandung.

METHODS

The method used in this research is descriptive retrospective with accidental sampling technique. The procedure of this study was to collect the medical records of patients who came to the Department of Oral and Maxillofacial Surgery of General Hospital Dr Hasan Sadikin Bandung from January 1, 2006, to December 31, 2010, and were then examined and recorded the number of patients undergoing biopsy, types of pathological abnormalities performed by biopsy, differences in clinical diagnosis and histopathological diagnosis, types of pathological abnormalities that had different diagnoses. The data is then processed based on its frequency. Presentation of data is arranged moderately and presented in the form of frequency distribution tables, graphs, and calculations in the form of percentages.

RESULTS

The results of studies conducted from February 20, 2012, to April 20, 2012, biopsy data from 197 patients were obtained in 2006-2010. From these data, 88 people were recorded as having incomplete medical record where data that was not equipped with histopathological examination results. Of the total data, 109 people have complete data in the form of clinical diagnosis, histopathological diagnosis and year of examination

DISCUSSION

The number of patients performed with biopsy, which came to the Department of Oral Surgery of the General Hospital Dr Hasan Sadikin from January 2006 to December 2010 was 109 patients. The percentage of patients undergoing biopsy in 2006 shows a small percentage. This is due to the 5-year cycle of medical records storage

Table 1 table of the number of cases of patients with biopsy in 2006-2010

Year	Total	Percentage
2006	9	8%
2007	12	11%
2008	36	33%
2009	32	29%
2010	20	18%
Total	109	100%

Table 2 table of types of pathological disorders performed through biopsy

Type of disorders	Biopsy
Odontogenic cyst	26
Mucocele	24
Ameloblastoma	21
Epulis	17
Papiloma	10
Fibroma	5
Squamous Cell Carcinoma	2
Non-specific infection	2
Giant Cell Epulis	1
Hemangioma	1
Total	109

Table 3. Types of pathological abnormalities that cause clinical diagnosis

Clinical Diagnosis	Histopathological Diagnosis	Total	Percentage
Cyst	Ameloblastoma	10	9,2%
Fibroma	Papilloma	7	6,4%
Fibroma	Mucocele	5	4,6%
Fibroma	Epulis Granuloma	3	2,7%
Cyst	Giant Cell Epulis	1	0,9%
Pyogenic granuloma	Hemangioma	1	0,9%
	Total	27	24%

of patients at General Hospital Dr Hasan Sadikin is hard to find. This data cannot be used as an accurate description of the number of pathological abnormalities biopsied in 5 years due to the large number of medical records that are not found and do not meet the research variables. This happens because the medical record data storage system is not good enough in maintaining the patient's medical record.

The most common pathological biopsy is from type of cyst and benign tumour. This is because, cysts and benign tumours have many similarities from other abnormalities in clinical appearance; therefore biopsy is essential in establishing the diagnosis of cysts, and neoplasms.⁵ Cysts and benign tumours also have a reasonably high prevalence. A study conducted at the Immanuel Hospital in Bandung, from the period 1998 to 2000, found neoplasm cases ranked fourth in the amount of 3.58% and cyst cases as fifth in the amount of 2.8%. A study also conducted in Spain found the prevalence of cysts ranked second with a percentage of 27.8%.⁶ The prevalence of ameloblastoma in Uganda reached 35.61%.⁷

The difference between clinical diagnosis and histopathological diagnosis from 2006 to 2010 is 24%. These data can conclude that the accuracy value of the clinical diagnosis of dentists in oral lesions performed biopsy is 76%. The difference in diagnosis is due to several pathological abnormalities that have similarities with each other in terms of clinical appearance until medical practitioners cannot diagnose the condition accurately. Therefore, biopsy before histopathological examination is very needed so that a proper diagnosis can be obtained by looking at the state of cells and tissues.⁸

The difference between clinical diagnosis and histopathological diagnosis can be caused by the lack of each examination. The weakness of the clinical examination is because the clinical examination only sees the symptoms and appearance of an abnormality on the surface of the skin, as well as the limited ability of the operator to see the symptoms and clinical appearance of an abnormality due to some similar abnormalities. The disadvantage of histopathological examination is that when a biopsy results are of poor quality, it will lead to improper interpretation under the microscope.⁴

Accurate histopathological examination depends on the clinical ability to carry out the correct biopsy procedure and provide appropriate clinical information, and also depends on the pathologist who can assess the results of the biopsy properly. The correct biopsy is performed precisely on tissue that can represent other tissues that have significant lesions or changes and qualify for a pathology examination. To get

an appropriate biopsy, three essential factors are namely the selection of biopsy sites, procedures performed and fulfilment of the requirements of biopsy tissue.⁴

The type of pathological abnormalities that obtained the difference between clinical diagnosis and histopathological diagnosis. Ameloblastoma has the highest percentage in diagnosis differences of 9.2%, followed by 6.4% papilloma, mucocoele 4.6%, granuloma epulis 2.7%, giant cell epulis 0.9%, hemangioma 0.9%.

The results of this study differ from studies conducted by Ida Kondori in the Department of Oral and Maxillofacial Pathology of Virginia Commonwealth University in 2011 which found that the most frequent differences in clinical and histopathological diagnosis were 16% hyperkeratosis, focal inflammatory fibrous hyperplasia 10%, fibroma 8%, periapical granuloma 7%, and radicular cysts 6% and malignant lesions 5.6%.³

The difference between these pathological disorders is caused by the prevalence of pathological abnormalities that occur in Indonesia, which are different from pathological disorders that occur in Virginia. This difference can occur due to several factors such as genetic factors and environmental factors that can cause pathological abnormalities in one place different from other sites.⁹

Different types of pathological disorders between clinical diagnoses and histopathological diagnoses of these disorders. Ameloblastoma is often suspected as a cyst, especially in unicyst-type ameloblastoma in which its clinical appearance is very similar to dentigerous cysts with swelling that grows slowly and does not cause pain (until the occurrence of infection).⁵

CONCLUSION

The accuracy value of the clinical diagnosis of dentists in oral lesions performed biopsy is 76%.

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