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学位論文要旨

Dissertation Abstract

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論文題名 Title of Doctoral Dissertation	Incidental findings in the thyroid gland on computed tomography (CT) images of the oral and maxillofacial region 頭頸部CT撮影における甲状腺偶発的所見の検討	
論文内容の要旨 (2000字程度) Dissertation Abstract (approx. 800 words)		
<p>In recent years, there has been increased use of computed tomography (CT) in dental settings, and CT machines have seen a wide spread in many facilities. This availability, along of advancement in imaging technology, has led to an ease of acquisition of large amounts of diagnostic information from CT scans.</p> <p>The advancement achieved in imaging modalities such as CT presents some challenges. For instance, the area exposed in an image might exceed the region of interest and show organs and structures adjacent to it. This burdens the radiologist with the responsibility of examining a larger region than initially intended, with the possibility of discovering incidental findings—findings discovered on a radiograph taken for another purpose. The frequency of discovering incidental findings is increasing, and so is the importance of such findings.</p> <p>Oral radiologists should examine all organs and structures captured in a maxillofacial CT scan. This helps improve the chances of early detection and treatment of lesions with potential malignancy. Unfortunately, many radiologists fail to detect and report such findings. Also, doctors might address such findings in radiology reports. This has created a social problem for both kinds of practitioners, with potential medical and legal consequences.</p> <p>Oral and maxillofacial CT scans occasionally show the thyroid gland. In such images, incidental thyroid nodules (ITNs) may be discovered. This study aimed to examine the prevalence and characteristics of incidental findings of the thyroid gland in CT images of the oral and maxillofacial region.</p> <p>CT scans for patients taken between January 2012 and December 2016, obtained with varying CT machines and imaging parameters, were retrospectively examined. Images with ITNs and other incidental findings (changes of size, calcification) were recorded along with the characteristics of the findings. The frequency of describing these findings in the patients' radiographic interpretation reports was also recorded. The findings were classified based on the guidelines of the Japan Association of Breast and Thyroid Sonology (JABTS).</p>		

論文内容の要旨（2000字程度） [Dissertation Abstract \(approx. 800 words\)](#)

A total of 1,135 patients were examined. Of those, 326 (28.7%) had incidental findings. Among those with findings, 169 (14.9%) had nodules larger than 5 mm in diameter, the threshold set by the JABTS guidelines for further examination, such as fine-needle aspiration cytology (FNAC). Of the 169 nodules exceeding 5 mm in diameter, only 52 (30.8%) were described in the patients' radiographic interpretation reports, of which 9 (17.3%) were referred to endocrinology for further examination.

Not all patients with incidental thyroid nodules underwent FNAC. Thus, there may have been more patients with incidental thyroid nodules suggestive of malignancy or even with malignancy. Diagnosis of thyroid gland disease on CT images is insufficient and limited compared with US examination, but CT could be an effective evaluation method for thyroid gland screening and assistance in US examination.

Incidental findings in the thyroid gland are quite common in CT scans of the oral and maxillofacial region. Oral radiologists should make a habit of examining all regions of a scan and reporting any findings they encounter, even outside the region of interest. Promoting awareness is also needed for doctors to carefully check radiographic interpretation reports and take proper action when the need arises.