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Tc-99m-PERTECHNETATE SALIVARY GLAND SCINTIGRAPHY: EVALUATION OF PROGNOSIS IN BELL'S PALSY. N. Tonami, K. Hisada, Y. Yamada, T. Miyazaki, R. Umeda. Dept. Nuclear Medicine and Otorhinolaryngology, Kanazawa University, Kanazawa.

The salivary gland scintigraphy using Tc-99m-pertechnetate was performed in 15 normal subjects and 40 patients with Bell's palsy to evaluate its clinical prognostic value for Bell's palsy. After intravenous injection of 10 mCi of Tc-99m-pertechnetate, sequential scintigrams were taken with scintillation camera every one minute for 25 minutes. At 15 minutes after injection, both of normal subjects and patients were given ascorbic acid to stimulate the secretion of saliva. The time activity curve was examined for the regions of interest over the parotid and submandibular glands and backgrounds. In normal subjects, values of the concentration and excretory ratio between the right and left sides of the parotid and submandibular glands were more than 80%. On examination within 10 days of the onset of Bell's palsy, 31 cases with complete recovery showed values of the concentration ratio and/or excretory ratio more than 80% between the normal and affected sides of the submandibular glands. In contrast, 9 cases with incomplete recovery showed low values of the concentration ratio and excretory ratio less than 80%. In the latter, more active treatments such as decompression operation should be considered in the early stage of the palsy.

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ROLE OF SIALOSCINTIGRAPHY IN DIAGNOSTIC IMAGING OF SALIVARY GLAND DISEASE. M. Takeuchi, T. Nakajima, B. Kado, K. Mishio, K. Uehara, Y. Watanabe and M. Sakura. Saitama Cancer Center, Saitama.

We have performed sialoscintigraphy with Tc-99m pertechnetate on 29 cases, including 11 benign tumor (5 Warthin tumor, 4 pleomorphic adenoma, 2 others), 5 malignant tumor (2 epidermoid ca, 1 adenoid cystic ca, 2 metastatic ca), 4 Sjögren syndrome and 9 others.

This time, we examined about the role of sialoscintigraphy in diagnostic imaging of salivary gland disease, compared with CT and US.

## Result

1) The sialoscintigraphy was useful to evaluate the function of the salivary gland.  
2) All of Warthin tumors were revealed as hot area and delay of secretion. No other tumor was exhibited hot image. This observation was thought as specific findings for Warthin tumor.

And it was able for sialoscintigraphy to image the tumor of Warthin less than 1 cm.

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RI DIAGNOSIS OF SJÖGREN'S SYNDROME. K. Nagase, S. Kondo, H. Hohshida, S. Iida, K. Okamoto, H. Hashimoto and S. Hirose. Department of Radiology, Juntendo University, Tokyo.

It is well known that Sjögren's syndrome causes abnormal secretion in lacrimal and salivary glands. There are a few established test methods for lacrimal gland abnormality. On the other hand, for the abnormalities in salivary gland X-ray test with contrast media is conducted, but the test is rarely made because it evoke pain to patients. This time we have investigated a possibility of detecting the salivary gland abnormality using RI test. We conducted bolus injection of 5mCi pertechnetate followed by 20ml of physiological saline. Then, time activity curve was drawn by setting up a detector to front head. The curve was made for 30 minutes after injection, then measured the ROI of parotid and submaxillary glands. Immediately after this let the patient chew gum for 10 minutes and collected saliva. Lastly, counts of the parotid and submaxillary glands were measured again same as before. The correlation between RI absorption in salivary gland and RI excretion volume in saliva was also favorable. Furthermore, was discussed the correlation between time activity curve and salivary gland function, and a good correlation between the slope of salivary gland accumulation curve and salivary volume was recognized.

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STUDY OF THE EFFECTS ON RADIOTHERAPY TO THE SALIVARY GLAND BY Tc-99m PERTECHNETATE. H. Tsuru, S. Morita, Y. Bussaka, S. Kikuchi, N. Umezaki and H. Ohtake. Kurume University School of Medicine, Kurume.

Many patients complain xerostomia due to salivary gland disorder by radiotherapy in treatment of head and neck regions. In order to evaluate salivary gland disorder by radiotherapy, sialographic scintigraphy by Tc-99m pertechnetate in patient having with head and neck tumor was performed. Subjects in this study included 25 cases of malignant head and neck tumor, and examined before and after radiotherapy. Radiotherapy consisted of 20-60 Gy in total dose with cobalt 60. After intravenous administration of 5 mCi of Tc-99m pertechnetate, scans by TOSHIBA GCA IOA scinticamera were performed and data which was obtained simultaneously were recorded in TOSHIBA GMS 80A every 1 minute for 60 minutes, lemon soup was administered orally after 45 minutes from onset of examination, stimulating salivary gland. Bilateral parotid and submandibular glands were selected ROI, and then Time-Activity Curve and various parameters were taken. Following results were obtained. Parotid gland was more slowly in uptake speed, more great in secretory function than those of submandibular gland before irradiation, and secretory function was damaged early after irradiation. It was considered that parotid gland was more radiosensitive.