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CYCLIN D1 AMPLIFICATION IN Buccal MUCOSA AND Tongue ORAL SQUAMOUS CELL CARCINOMA

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Objectives: To determine and compare the amplification of Cyclin D1 in buccal mucosa and tongue oral squamous cell carcinoma(OSCC) and to associate its amplification in buccal mucosa and tongue OSCC with tumor depth, tumor front, histopathological grading, pathological tumor size, lymph node status, TNM staging and survival rate.

Methods: The study samples were paraffin-embedded OSCC surgical specimens obtained from the archives of the Oral Pathology Diagnostic Laboratory. A total of 50 samples of patients with primary OSCC of buccal mucosa and tongue were included in the study. The sociodemographic and clinical data were obtained from the Malaysian Oral Cancer Tumor and Database System coordinated by the Oral Cancer Research and Coordinating Centre (OCRCC), University of Malaya. There were 31(62%) female and 19(38%) male with the overall age ranging from 26 to 94 years with a mean age of 60years. The OSCC samples were from 44(68%) Indians, 10(20%) Malays and 6(12%) Chinese. The fluorescent-in-situ hybridization (FISH) technique was used to detect the amplification of Cyclin D1 using the Vysis protocol. Fluorescence evaluation of Cyclin D1 was performed using the image analyzer where the Cyclin D1 amplification signal appears as a small spot. At least 200 nuclei were scored using a 100X objective in each defined histological area, and each nucleus was assessed for the chromosome copy number. Statistical correlations of Cyclin D1 and certain clinicopathological parameters of OSCC were analyzed using the chi-square method or Fisher’s exact test.

Results: Positive amplification of cyclin D1 was detected in 72%(36) of OSCC. Detection of positive amplification for cyclin D1 was observed in 88% (22) and 56% (14) of the tongue and buccal mucosa OSCC respectively where the difference was statistically significant (p=0.012). There was a statistically significant correlation between Cyclin D1 positivity and ethnicity for the OSCC of the buccal mucosa (p=0.037); larger pathological tumor size (pT) (p = 0.019), higher pTNM stages (p=0.014), tumor depth ≥ 5mm in tongue cases (p=0.001) and survival rate (p=0.009).

Conclusion: There is a significant association between amplification of Cyclin D1 with some clinicopathological parameters which are known independent prognostic indicators.

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OSTEOINDUCTIVE POTENTIAL OF POLYHYDROXYALKANOATES (PHA) WITHIN THE SUBCUTANEOUS ENVIRONMENT OF A HAMSTER MODEL

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Background: Previous study has shown presence of osteoid in the subcutaneous environment implanted with polyhydroxyalkanoates (PHA). They suggested that while the osteoid formation may represent dystrophic ossifying reaction of subcutaneous tissues to by-products released from the PHA, its nature remained conjectural and it warrants further investigations.

Objective: To determine the osteoinductive potential of PHA in the subcutaneous tissues of a hamster model.

Materials and methods: Paraffin-embedded tissues from a previous study of 16 hamsters implanted with PHA were subjected to immunohistochemical examination. Antibodies were used to detect protein molecules involved in bone formation and resorption namely bone morphogenetic protein (BMP) 2-7, osteopontin (OPN), bone sialoprotein (BSP), alkaline phosphatase (ALP), osteonectin (ON) and osteocalcin (OC) in the tissues surrounding PHA implants.

Results: Positive immunoreactivity to all the above markers were detected but with variable expression levels and at different time points. BMP2 and BMP7 were expressed the most throughout the experimental samples whereas BSP, ON, BMP4, BMP5, BMP6 were expressed to a lesser extent in almost all animals. ALP, OPN, OC and BMP3 were expressed at the later phase.

Conclusion: These findings suggest that osteogenesis and remodeling occur in tissues surrounding PHA. Within the limitations of this study, current findings support the hypothesis that PHAs possess osteoinductive potential.

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[PD2025]
RADIATION INDUCED CHONDROSARCOMA OF THE MAXILLA

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Background: Radiation induced chondrosarcoma is a rare complication following radiotherapy in the treatment of cancer particularly in the head and neck region. Surgery is often the only curative treatment of choice but still carry a risk of recurrence which will worsen the already poor prognosis of the disease. The role of radiotherapy and chemotherapy is very limited in most of the cases. The reported survival rates ranges from 3% to 60% in various series.

Case Report: The present case is a 59 year old Malay lady with a history of nasopharyngeal carcinoma diagnosed in 1999 and was treated with radiotherapy and chemotherapy. She presented to us in September 2009 with a painless ulceration and swelling at the left side of the palate and incisinal biopsy revealed chondrosarcoma as the final histopathological report. A left subtotal maxillectomy was done and she recovered uneventfully postoperatively. In April 2010 she had a recurrence of the tumour and wide excision of the lesion was done. She developed a recurrence again in June 2010 and Magnetic Resonance Imaging (MRI) revealed extension of the lesion to the anterior cranial and left temporal fossa which made surgical intervention impossible. She is currently undergoing palliative treatment and still attending regular follow-up with our team. Primary surgery in the treatment of radiation induced chondrosarcoma often offers the best chance of cure and recurrence of the tumour would definitely result in a poorer survival rate.

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[PD2026]
EXAMINATION OF ORAL CYTOLOGY IN PATIENTS WITH ORAL SQUAMOUS CELL CARCINOMA

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Introduction: Unlike other organs, the oral cavity can be examined by both direct visualization and palpation. Therefore, cytological results obtained using the oral scratch, which is a minimally invasive procedure, is useful for cytological analysis of oral cavity. But sometimes difficulties have been encountered in the diagnosis of oral disorders.

Aim: Therefore, in this study, we investigated the sensitivity of the cytology of oral scratch in the diagnosis of oral squamous cell carcinoma.

Methods: The subjects were examined at Oral Cancer Center, Tokyo Dental College from July 2006 to June 2010. Cytological examinations were performed at the initial examination in 124 cases. These patients were diagnosed with oral squamous cell carcinoma on the basis of histopathological examination of biopsied or excised tissues. Cytological examinations were performed by liquid-based cytology using “Thin Prep®”.

Results: Class V was diagnosed in 79 cases (63.7%); class IV, 9 (7.3%); class III, 21 (16.9%); and class II/I, 15 (12.1%). Further, in the class III/II/I cases, the percentage of exophytic type squamous cell carcinoma is relatively higher. Also, the cytological findings of class III/II/I cases were characterized by the appearance of many surface squamous cells with weak cellular atypia. However, several lesions with erosions or ulcers could be diagnosed with the oral cytology.

Conclusion: This study reaffirmed that sometimes diagnosis of superficial or exophytic type lesions on the basis of oral cytology are difficult, and careful attention is necessary for oral cytological diagnosis of class III/II/I oral carcinoma.

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[PD2027]
PRIMARY INTRAOSSEOUS CARCINOMA OF THE RIGHT ANTERIOR MAXILLA WITH PROBABLE ORIGIN FROM A SIALO-ODONTOGENIC CYST: REPORT OF A CASE

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Primary intraosseous odontogenic carcinoma (PIOC) is a rare malignant tumor accounting for less than 10% of overall jaw tumours. It is defined as a squamous cell carcinoma (SCC) occurring within the jaws and arising either from a previous odontogenic cyst or de novo. An intraosseous SCC originating from a sialo-odontogenic cyst (SOC) has not been previously documented in the literature. Here, we report a case of a 53-year-old Chinese woman who presented with a 10 year history of a slowly enlarging swelling in the anterior maxilla. There was persistent pus discharge noted after extraction of mobile teeth 11 and 21. The initial radiographic presentation was a unilocular radiolucent lesion with well-defined margins in the anterior maxilla (midline). An excisional biopsy was done and histopathological examination of the enucleated specimen shows a SOC with evidence of epithelial proliferation and initial invasion into the cyst wall. Within a year, the patient returned with a painful, rapidly enlarging solid mass at the right anterior maxilla associated with mobile tooth 12. Radiographically the lesion showed bony destruction with ill-defined margins. An incisional biopsy was done. This was diagnosed as moderately differentiated squamous cell carcinoma (MDSCC). The histogenetic relationship between the SOC and the MDSCC is discussed.

In conclusion, this case report serves to illustrate that the clinician/surgeon should be aware of the potential aggressive behavior of SOC as well as the possibility of subsequent malignant transformation of its lining epithelium.

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TORSIVERSED MANDIBULAR THIRD MOLAR WITH A PARADENTAL CYST

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Torsiversion of a tooth is the rotation of the tooth along its axis. This rotation causes the tooth to contact its neighbour with its buccal or lingual surface instead of the usual mesial/distal contacts. Few studies have been made of this situation in the mandibular third molar. In the previous study by E.J. Neiburger, of the third molars torsiversed, 77% showed a 30° buccal rotation. There were no 90° rotated teeth in his sample of 826 adults.

We report of a case of a 90° rotated third molar with an incidental finding of a paradental cyst. Torsiversed third molar is highly likely to be a difficult surgery to perform. The likelihood of neural injuries is high in cases of close proximity to the lingual or inferior dental nerve.

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