

with duration of diabetes mellitus. Majority of patients with oral lesions were above the 5th decade of life. Only 13(11.7%) of the patients with oral features of diabetes mellitus had average fasting blood glucose within the normal range.

Significant oral features of diabetes mellitus found in control cases were hyposalivation ($\chi^2 = 49.531$, $df=1$, $p<0.05$), Burning mouth; ($\chi^2 = 5.587$, $df=1$, $p<0.05$), Halitosis ($\chi^2 = 13.384$, $df=1$, $p<0.05$), Coronal caries ($\chi^2 = 14.937$, $df=1$, $p<0.05$) and Periodontitis; ($\chi^2 = 24.383$, $df = 1$, $p<0.05$).

A total of 105 cases (79.5%) and 95 (72.0%) control subjects were unaware that diabetes mellitus has oral manifestations, 19 cases (14.3%) and 33 (25%) controls were able to name at least one oral feature of diabetes. Cases having higher awareness (>3 oral features) had significantly better mean glucose level. Awareness was unrelated to educational level of cases but directly related to education of controls.

Conclusion: There was significant difference in oral features among diabetics compared to control and features were directly proportional to glycemic as diabetics with poor glycemic control showed more oral features than those that attained euglycemic status. Overall, there was low awareness of oral features of diabetes amongst study cohort which was worse amongst diabetics compared to control.

PRIMARY XANTHOMA OF THE MANDIBLE: A CASE REPORT OF A RARE ENTITY.. DR.

FELIPE NOR, PROF. SINDHURA ANAMALI,
PROF. SHERRY TIMMONS, DR. MD SHAHIDUL
AHSAN, DR. JUAN PABLO CASTRO CUELLAR, DR.
SCOTT STEWARD-THARP, PROF. NIDHI HANDOO.
UNIVERSITY OF IOWA COLLEGE OF DENTISTRY

Objective: Central xanthoma of the jaw is an extraordinarily rare entity with less than 30 cases reported in the English literature so far. This benign lesion is often associated with endocrine and metabolic diseases (e.g. hyperlipidemia, diabetes mellitus, etc.). When those conditions are ruled out, primary xanthoma of the jaw is the appropriate diagnostic term. Adult males are most commonly affected, and the lesion is most frequently reported in the mandible. The classic microscopic features include the presence of histiocytic-like cells with foamy cytoplasm that stain positive by immunohistochemistry for CD68, but are negative for S100 and CD1a. Due to the microscopic similarities of histiocytic-like cells in H/E slides, Erdheim-Chester disease and Rosai-Dorfman disease are two systemic conditions that should be considered in the work-up.

Findings: We present a case of a 15 years-old male patient with multiple, ill-defined, non-corticated, radiolucent entities in the left ramus of the mandible. The lesions appear to be coalescing in some views. There is no evidence of bucco-lingual expansion and cortical destruction of bone. An excisional biopsy is performed. Microscopic examination reveals mixed soft and hard tissues. The hard tissue is composed of reactive vital bone. Sheets of foamy cells with dark, centrally placed vesiculated nuclei, prominent nucleoli and well-defined cytoplasmic membrane are noted between the bony trabeculae. In some areas, epithelioid cells with more amphophilic cytoplasm and less distinct cytoplasmic membrane are identified. Chronic inflammatory infiltrate with extravasated erythrocytes within the background of the connective tissue is also observed.

Conclusion: The appropriate diagnosis of central xanthoma of the jaw requires the work-up for systemic diseases in

association with immunohistochemical profile. The recommended treatment is excision and curettage, which has been associated with excellent prognosis and extremely low recurrence rate.

CANDIDA SPECIES AND STRAINS IN THE ORAL CAVITIES OF THE ELDERLY: A COM- PARISON BETWEEN PEOPLE IN HOME- BASED CARE AND IN AGED-CARE FACILITIES. DR.

NURUL THIAHUDDIN^A, PROF. RICHARD CANNON^A,
DR. ERWIN LAMPING^A, PROF. ALISON RICH^B.^A SIR
JOHN WALSH RESEARCH INSTITUTE, FACULTY OF
DENTISTRY, UNIVERSITY OF OTAGO,^B UNIVERSITY
OF OTAGO

Oral candidiasis is prevalent in the elderly population due to medical conditions, use of systemic medications and the presence of oral appliances such as dentures. It is uncertain whether residing in an aged-care facility contribute to Candidacarriage and has an impact on the Candida species or strains colonizing elderly patients.

Objective: The aim of this study was to investigate the presence and abundance of Candida species and strains in saliva and from the oral mucosal swabs and smears of people living in institutional rest homes and those living at home.

Findings: A higher proportion of elderly people living in rest homes had PAS+Candida hyphae present in smears (9/25, 36%) compared to those living in their own home (5/21, 24%). CFU were present in 17/25 (68%) palatal swabs, 20/25 (80%) tongue swabs and in saliva from 21/25 (84%) of elders living in rest homes compared with 4/21 (19%) palatal swabs, 6/21 (28%) tongue swabs and from saliva in 12/21 (57%) of elderly living in their own home.

Conclusion: The results indicate that elderly people living in aged-care facilities are more likely to have Candidahyphae detected on PAS stained smears and have a higher Candida carriage rate compared to elderly living at home. This may be due to the presence of co-morbidities which led to the need for residential care and/or may be related to the rest home environment.

LUNG CARCINOMA METASTASIS TO THE MAXILLA AFTER RECURRENT IMPLANTS FAILURE. DR. SAVERIO CAPODIFERRO^A,

PROF. GIANFRANCO FAVIA^A, DR. ANGELA TEM-
PESTA^A, DR. ROBERTO MAFFEI^B, DR. LUISA LIMON-
GELLI^A, PROF. ANNA NAPOLI^A, PROF. EUGENIO
MAIORANO^A.^A UNIVERSITY OF BARI, ^B PRIVATE DEN-
TAL PRACTICE

Metastatic tumours involving the oro-facial tissues are infrequent, with an incidence ranging between 1-8% of oral malignant tumours. The peak incidence is in the 5-7th decades and they can be the first sign of an occult cancer or manifest during the follow-up of a patient with a known primary tumour.

We describe a case of metastasis from unknown lung adenocarcinoma occurring in the maxilla, around dental implants, causing recurrent implants failure. A 62 year-old male without relevant clinical history was referred for dental implant failure in the left maxilla. New dental implants were positioned in the same maxillary area, but an additional implant failure occurred one month later; implants removal with an accurate bone curettage was performed and the surgical sample sent for histological

examination. Unexpectedly, small foci of adenocarcinoma were found, with spiculae of medullary bone, prominent inflammatory changes and bacterial deposits. At immunohistochemistry, the tumour positively stained for CK7+ and TTF1+ but not for CK20 and PSA. Additional clinico-radiological investigations revealed a primary tumour of the lung, subsequently characterized as acinar adenocarcinoma.

Metastases to the oro-facial tissues can involve the oral mucosa, jawbones and salivary glands; lung, kidney, prostate and colon-rectum in males, uterus, breast, ovary and lungs in females are the most frequent primary localisations. It is accepted that metastatic neoplasms in the oro-facial region show high predilection for sites with peculiar clinical conditions, such as the parodontal inflammation or edentulous individuals bearing prosthesis.

The molar and premolar regions of the jawbones and the post-extraction sites frequently are involved; this was related to the rich vascularisation and high bone marrow content and/or to re-organisation of the blood clot of such sites. This report highlights the importance of histological examination of gingival-parodontal inflamed tissues when plaque and calculus accumulations have been excluded as primary causes.

DELAYED SCLEROSING GRANULOMATOUS REACTION TO HYALURONIC ACID REINFORCED WITH POLY-HYDROXY-ETHYL-METHACRYLATE INJECTION. DR. SAVERIO CAPODIFERRO^A, PROF. EUGENIO MAIORANO^A, DR. PASQUALE SPORTELLI^B, DR. ELIANO CASCARDI^A, PROF. ANNA NAPOLI^A, PROF. GIANFRANCO FAVIA^A. ^A UNIVERSITY OF BARI, ^B POLICLINICO HOSPITAL OF BARI

Objective: On the basis of manufacturers' and some authors' claims, all commonly used injection materials for aesthetic correction and different formulations of hyaluronic acid (HA), with or without adjunctive substances, result in no immunogenic reactions or other complications; nevertheless, unexpected, late or early adverse reactions have been reported. Overall, HA reinforced with hydroxyethyl-methacrylate (HEMA) can promote the formation of late foreign body granulomas (FBGs). The authors report on the histological (conventional and confocal laser scanning microscopy) features of a case occurred 10 years after the injection of HA+HEMA in the lower lip of a female patient.

Findings: The nodular lesion was mainly composed by several almost empty and polygonal spaces, surrounded by fibrous collagen and sparse multinucleated giant cells, pointing at long-standing FBG. The polygonal spaces were 20–120µm in size and partly filled with translucent particles, with a broken-glass appearance.

Conclusions: HA is a constituent of several normal tissues and, as such, does not lead to adverse reactions. When FBG is present, one should argue that additional components were bound to HA. HEMA has been used as a stabilizer of HA-based fillers but it is known to induce transient macrophagic reaction, fibroblast proliferation with scarce collagen deposition and multinucleated giant cells. The morphological features of the present case are consistent with previous injection of HA+HEMA and the prolonged time interval from injection to clinical manifestations indicates the adverse reaction is slowly progressive. Also, it was postulated that macrophages would incorporate foreign

particles, thus keeping the foreign particles in a latent stage. Subsequently, additional priming events (e.g., supervening infections) would be needed to re-activate macrophages, lead to multinucleated giant cell accumulation and finally to wide granulomatous reaction. Such pathogenetic mechanism may explain the prolonged course of the disease, with only late development of clinically detectable nodular lesions.

LYMPHANGIOGENESIS MARKERS IN METASTATIC LYMPH NODES OF ORAL SQUAMOUS CELL CARCINOMA. DR. HAIZAL HUSSAINI^A, DR. NURUL RUZIANTEE IBRAHIM^B, DR. BENEDICT SEO^A, PROF. ROSNAH ZAIN^C, PROF. ALISON RICH^A. ^A UNIVERSITY OF OTAGO, ^B INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA, ^C MAHSA UNIVERSITY

Regional lymph node metastasis is a crucial negative prognostic factor in oral squamous cell carcinoma (OSCC). Whilst angiogenic and lymphangiogenic factors have been extensively investigated in primary OSCC, their expression in metastatic lymph nodes remains uncertain.

Objectives: To investigate the expression of markers associated with lymphangiogenesis [vascular endothelial growth factor (VEGF)-C, D, VEGF receptor 3 (VEGFR3) and prospero homeobox 1 protein (PROX1)] in cervical lymph nodes from OSCC patients with and without metastatic deposits. Formalin-fixed paraffin-embedded (FFPE) blocks were accessioned from the Oral Cancer Research Coordinating Centre (OCRCC), University of Malaya, Malaysia. Samples were divided into two groups; Group A comprised cervical lymph nodes with histologically confirmed metastatic deposits from primary OSCC (n=17) and Group B, cervical lymph nodes from patients with primary OSCC without metastatic deposits, (n=17). Immunohistochemistry (IHC) was undertaken with antibodies against VEGFC, VEGF-D, VEGFR3 and PROX1. Quantitative analysis using ImageJ was used to delineate the extent of positivity (proportion and intensity) and lymphatic vessel density (LVD). Three samples from each group were subsequently selected for gene expression analysis of the lymphangiogenic markers (VEGFC, VEGFD, VEGFR3 and PROX) using qPCR.

Findings: IHC showed significantly greater VEGFC expression in Group A compared with Group B (p=0.0002). Significant positive correlation was found between VEGFC and TNM stage (p=0.004). No statistically significant differences were observed in the protein and gene expression level of the other tested markers.

Conclusions: This is the first study demonstrating significant overexpression of VEGFC in positive lymph nodes and suggests that VEGFC is an important growth factor involved in OSCC lymph node metastasis.

ACTIVATING NOTCH1 MUTATION IN HIGH-GRADE EVOLUTION OF ADENOID CYSTIC CARCINOMA. DR. CHUAN-XIANG ZHOU^A, PROF. TIEJUN LI^B. ^A PEKING UNIVERSITY SCHOOL AND HOSPITAL OF STOMATOLOGY, ^B PEKING UNIVERSITY SCHOOL AND HOSPITAL OF STOMATOLOGY

Objective: Salivary adenoid cystic carcinoma (SACC) is identified as a tumor with biphasic differentiation of epithelial