of Malaya, Malaysia. Samples were divided into two groups; 1) OSCC positive cervical lymph nodes with histological evidence of metastasis and 2) OSCC negative cervical lymph nodes without histological evidence of metastasis. Immunohistochemistry (IHC) was carried out to detect protein expression of IL17, IL22, IL23 and STAT3 using anti-human antibodies. Gene expression was performed using real time polymerase chain reaction to validate the results.

Findings: IHC results showed that expression of IL22, IL23 and STAT3 was significantly higher in negative nodes when compared with the positive group ($p<0.05$). Gene expression analysis showed no significant differences between the two groups.

Conclusion: The results suggest that there may be downstream evidence of PMN establishment in OSCC negative lymph nodes, modulated mainly by IL22, IL23 and STAT3.

VERRUCIFORM XANTHOMA: CASE SERIES OF AN UNUSUAL, COMMONLY MISDIAGNOSED LESION.

DR. SONAL SHAH. NEW YORK UNIVERSITY COLLEGE OF DENTISTRY

Introduction: Verruciform Xanthoma (VX) is a benign condition occurring primarily in the oral cavity with some lesions also found on the genital mucosa or skin. VX occurs primarily in the fifth decade of life and shows a slight male predilection. This lesion generally presents as a papillary or rough-surfaced, painless, well-demarcated lesion, ranging from white, yellow-white, to orange in color. The etiology of VX is still largely unknown and definitive diagnosis is made based on histology. This lesion is thought to correlate with localized trauma or chronic inflammatory conditions such as lichen planus, lupus, epithelial dysplasia, pemphigus vulgaris, and mucous membrane pemphigoid. We report a series of three cases from our institution in which we examine the demographics associated with verruciform xanthoma as well as its connection to known inflammatory conditions.

Patient Cases: Our case series includes two males and one female patient ranging in age from 45-76 years old. The lesions were found in 3 different sites: gingival mucosa, ventral tongue, and buccal mucosa. Two of the patients had biopsy-proven oral lichen planus. The social and medical histories of each patient will be examined and compared for overlapping factors that may be of assistance in further clarifying demographic and etiological factors.

Conclusion: Clinicians should be familiar with verruciform xanthoma as it is often misdiagnosed as the more commonly occurring viral papilloma. Patients may be concerned they have contracted a viral disease and thus this lesion should be biopsied to rule out HPV infection.

CHARACTERIZATION OF THE INFLAMMATORY INFILTRATES IN ORAL EPITHELIAL DYSPLASIA AND ORAL SQUAMOUS CELL CARCINOMA USING A NEW MFCA METHOD.

DR. HAYDER MAHDI[A], MS. DENISE LOPEZ EYMAEL[A], DR. AIMAN ALI[A], DR. MARCO MAGALHAES[A,B,C]. [A] CANCER INVASION AND METASTASIS LABORATORY, FACULTY OF DENTISTRY, UNIVERSITY OF TORONTO, TORONTO, ON, [B] ORAL PATHOLOGY AND ORAL MEDICINE, FACULTY OF DENTISTRY, UNIVERSITY OF TORONTO, ON, [C] SUNNYBROOK HEALTH SCIENCES CENTER, TORONTO, ON

Oral cancer is a devastating disease and tumor associated inflammation is a key component of the tumor microenvironment. Current techniques to evaluate inflammatory infiltrate are based on a visual, operator-based quantification and may not accurately quantify specific inflammatory signatures.

Objective: To develop a method for characterizing the inflammatory infiltrate associated with oral epithelial dysplasia (OED) and oral squamous cell carcinoma (OSCC) using confocal microscopy and multichannel fluorescent colocalization analysis (MFCA).

Methods: We performed a retrospective analysis of 49 biopsy samples of lateral tongue lesions with a diagnosis of hyperkeratosis, ED and OSCC. The inflammatory infiltrate was identified using a combination of 2 primary antibodies for each cell type followed by staining with Alexa 488 or 555 tagged secondary antibodies for FIHC. Identification of the inflammatory cells was performed by 2-channel colocalization using a custom-made, semi-automated algorithm in Volocity 6.3.

Results: Using our novel analysis technique we identified and quantified neutrophils, TCD8, TCD4, eosinophils, plasma cells, B cells, Macrophages and NK cells in biopsy specimens. T-lymphocytes represented the main component of the inflammatory infiltrate in all specimens and there was a marked increase in inflammatory cell density from benign to OSCC lesions. Our results also showed that the CD4/CD8 ratio and neutrophils/lymphocytes ratio (NLR) had a progressive increase when moving from benign lesions to OSCC.

Conclusions: We described a new, method to quantify inflammatory infiltrates in oral biopsies. This semi-automated approach decreases operator bias and provides robust and reproducible data to study inflammation in tissue samples. Using this technique, we provide evidence that cancer progression is mirrored by progressive changes in the inflammatory infiltrate.

Significance: Understanding specific changes in cancer associated inflammation is essential to develop immune-targeted therapies. This technique and our current results will be further explored as a potential prognostic maker of oral cancer.

VISUALIZATION AND CHARACTERIZATION OF EXOSOMES IN BREAST CANCER CELLS.

PROF. YOUNG KIM[A], DR. TAE-SUP LEE[B]. [A] CHONNAM NATIONAL UNIVERSITY, [B] DIVISION OF RI-CONVERGENCE RESEARCH, KOREA INSTITUTE OF RADIOLOGY AND MEDICAL SCIENCES

Objectives: Exosomes are extracellular vesicles of endocytic origin with a size range of 40-150 nm and a lipid bilayer membrane. Though exosomes are known as dynamic mediators of intercellular communication, its characteristics and function have not been fully studied. In this report, we used a metabolic labeling method to prepare fluorescent exosomes to investigate the characteristics and the movement of exosomes derived from various breast cancer cells.

Findings: MCF-7 and MDA-MB-231 cells were treated with three types of azido sugars, Ac4ManNAz, Ac4GalNAz, or Ac4GlcNAz (50 mM) for 3 days to produce the azide (-N3) containing exosomes through metabolic glycosylation. It is confirmed that the azido sugar decorated exosomes were able to maintain their original characteristics such as size, lipid bilayer morphology, and protein profile. The exosomes prepared with Ac4ManNAz have shown the highest labeling efficiency with ADIBO-Cy3 fluorescence dye in MCF-7, MDA-MB-231, BT-