was performed with a clinical diagnosis of medication-related osteonecrosis of the jaw (MRONJ). The pathology revealed a high grade neuroendocrine cell tumor. Both cases were positive for neuroendocrine markers chromogranin, synaptophysin, and CD56, and stained negative for prostate specific antigen (PSA) and prostate specific acid phosphatase (PSAP). Both tumors demonstrated a proliferative index (Ki-67) of 60-70%. An extended panel of immunostains appeared to eliminate other entities from consideration.

Conclusions: Awareness of t-NECP is of importance to correctly diagnosis the entity, recognizing that tumor markers such as PSA and PSAP are negative, and standard serum markers for prostate carcinoma may be stable or show no increase with progression of disease. Neuroendocrine carcinoma in the setting of medication related osteonecrosis of the jaw in a patient with prostate carcinoma needs to be included in the differential diagnosis.

DRUG SCREENING OF ORAL CARCINOMA CELL LINES USING PLASTIC, MOUSE OR HUMAN TUMOR DERIVED MATRICES. *MRS.*
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Objectives: Oral squamous cell carcinoma (OSCC) is the sixth most common cancer worldwide. Traditionally, cancer cell lines cultured in 2D are used to predict the efficacy of new anti-cancer compounds. However, this method has low predicting value for efficacy since more than 80% of the cancer drugs, which have promising effect in pre-clinical studies, fail in Phase II clinical trials. Our group has developed human matrix based product, Myogel, which is extracted from leiomyoma tissue. Our hypothesis is that Myogel represents better the in vivo condition compared with the 2D plastic wells, or even wells coated with mouse derived Matrigel®.
We selected 12 OSCC cell lines and 19 anti-cancer compounds, targeting mTOR and epidermal growth factor receptor (EGFR) signalling pathways. The High Throughput Drug Screening method with five different conditions were used: cells in 2D plastic wells; on top and within Matrigel® or Myogel. Additionally, the morphology of OSCC cells and EGRF location were studied using immunofluorescence staining and confocal microscope.

Findings: Cancer cells on top and within Myogel were less responsive to EGFR inhibitors compared to cells cultured in 2D plastic or Matrigel®. However, in case of mTOR inhibitors, similar efficacy of the drugs in all conditions was seen. The morphology of the carcinoma cells differed depending on the matrix. Within Matrigel, the cells formed isolated round-shaped organoids, whereas the cells within Myogel were stellate-shaped. Immunofluorescent staining revealed that in 2D and Matrigel, EGFR was located primarily on the cell membranes, while in Myogel, the staining was mainly in the cytoplasm.

Conclusions: Carcinoma cells showed different behaviours and responses to anti-cancer compounds depending on the testing conditions. Comparison between clinical data and our in vitroresults are still needed to reveal the most reliable condition for cancer drug testing.

ORAL MANIFESTATIONS AID IN THE DIAGNOSIS OF COWDEN SYNDROME: ROLE OF AN ORAL DIAGNOSTICIAN. *DR. PALLAVI*
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Cowden Syndrome, also referred to as Multiple Hamartoma Syndrome or PTEN Hamartoma Tumor syndrome (PHTS), is an autosomal dominant disorder with a broad clinical spectrum and wide degree of penetrance. This rare disorder causes an increased predisposition to the development of numerous malignancies, and benign hamartomas and neoplasms. The oral manifestations have also been well documented and are present in nearly all affected individuals by the third decade of life.

Objective: To describe the role of an Oral Diagnostician in the preliminary diagnosis of Cowden Syndrome. We report a case of a patient who presented with pathognomonic oral signs of Cowden Syndrome. Upon further review of her medical and family history, she was referred to her family physician and genetic counselor where the diagnosis of Cowden syndrome was confirmed through genetic testing.

Findings: A 31 year old female presented to the dental clinic at University of Colorado for a routine dental evaluation. The patient was noted to have multifocal papules affecting the gingiva, tongue and buccal mucosa, and multiple papular skin lesions. She reported a history of a thyroid tumor and a family history of breast and uterine cancer. Based on the review of the medical history, family history and oral mucosal findings, a diagnosis of Cowden syndrome was considered. The patient was referred to her family physician and genetic counselor where the diagnosis of Cowden syndrome was confirmed through genetic testing (PTEN mutation). Additional clinical findings included macrocephaly, trichilemommas and thyroid goiter.

Conclusion: The NCCN guidelines list multifocal or extensive oral papules as one of the major criteria in the diagnosis of Cowden Syndrome. The Oral Diagnostician can play a crucial role in the diagnosis. Early diagnosis of patients affected with Cowden syndrome can facilitate early screening, detection and management of benign and malignant neoplasms.

A UNIQUE PRESENTATION OF METASTATIC DISEASE IN A PATIENT WITH AN OCCULT HISTORY OF BREAST CARCINOMA. *DR. SARAH AGUIRRE[A], DR. KRISTIN MCNAMARA[B], DR. JOHN KALMAR[A]. [A] THE OHIO STATE UNIVERSITY, [B] OHIO STATE UNIVERSITY*

Metastatic disease to the oral cavity is relatively rare and constitutes approximately 1% of all oral cavity malignancies. Skeletal involvement predominates over soft tissue presentations and the posterior region of the mandible is frequently affected. Pain, swelling and sensory alterations have been reported and may mimic periodontal or periapical disease or osteomyelitis. We present a case of a 63-year-old female with a complaint of progressive dysthesia for three months. Panoral and 3D imaging revealed widening of the PDL and loss of lamina dura affecting most of the mandibular teeth, which all tested vital. The patient's