**INTRODUCTION**

Tumor thickness has been shown to be an important prognostic factor in oral carcinoma for local recurrence and cervical lymph node metastasis. An accurate preoperative assessment of the tumor thickness would provide useful information for targeting those patients who need elective treatment of the neck.

Ultrasound (US) is successfully employed in cardiology, gastroenterology, obstetrics and gynecology, but recently, it is gaining importance also in the diagnosis of oral and maxillofacial lesions. In fact, the development of US technology and the introduction of probes allow the direct evaluation of tumor size and tumor depth.

In addition, several advantages of US are reported such as harmless, radiation free, availability, being easy-to-use, non-invasive technique, effective cost, repeatable and absence of metal artefacts in case of presence of dental restorations.

The aim of this present prospective study is to determine the extent of tumor thickness by US as compared to histological sections, and to assess the predictive capacity of tumor thickness by ultrasound in detecting lymphnode metastasis.

**MATERIAL AND METHODS**

This study will be performed on 50 patients clinically suspected diagnosis of oral carcinoma enrolled at the Department of Oral and Maxillofacial Sciences (Operative Unit of Pediatric Dentistry and Odontostomatology and Operative Unit of Oncological and Reconstructive Maxillo-Facial Surgery), Policlinic Umberto I of Sapienza University of Rome. After a complete intra-oral examination, the ultrasonography will be performed at the Unit of Head and Neck Radiology and at Simple Unit of Diagnostic and Ultrasonography Innovations (Policlinic Umberto I of Sapienza University of Rome) using an E-CUBE 15 EX scanner (Alpinion, Seoul, Korea) with an 3-12 MHz intraoral transducer. This probe is characterized by small and thin in dimensions, such as a toothbrush, that help directly to reach the oral lesions.

Oral lesions will be classified according to their localization, morphological and structural characteristics and their relationships with the surrounding tissues (bones, vases, nervous). Furthermore, the presence of lymphadenopathies will be evaluated with transcutaneous high frequency probe in the submental, submandibular and lateral cervical regions.

Each patient will be subjected to intra-operative examination at the time of the primary surgery to confirm the diagnosis of carcinoma previously formulated, and to assess subsequently the presence of tumor-free excision margins.
Inclusion criteria:
• patients affecting by oral carcinoma (tongue, palate, mandibolar alveolar ridge, cheek)
Exclusion criteria:
• non cooperative patients;
• inoperable patients

STATISTICAL ANALYSIS
Sensitivity, specificity, diagnostic accuracy, positive and negative predictive values of US in evaluating tumor infiltration will be calculated.
The correlation between tumour thickness measured by US and in the histopathological sections will be evaluated with Pearson’s product correlation analysis.
Cut-off point of tumor thickness associated with neck metastasis will be determined by receiver operating characteristic (ROC) curve.

PROCEEDINGS:


PUBLICATIONS:

CONGRESS PARTICIPATION
24th National Congress of the Collegio dei Docenti Universitari delle Discipline Odontostomatologiche; Milan, 6-8 April 2017.
Best poster award in the session (Laser).
Oral presentation “Eating Disorders: sinergy of the multidisciplinary team”. SpringMeeting AIDI, 6 May 2017