ROLE OF COMPUTED TOMOGRAPHY IN ASSESSING FLOOR OF THE MOUTH LESIONS

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Introduction

The floor of the mouth (FOM) is located below the tongue in the oral cavity. Many diseases can occur in the FOM that are unique to this anatomical location. Clinical examination of the mucosal surface of the FOM is easy without imaging, because the superficial pathologies can be assessed by the bare eye. However, if the disease has a deep extension into the FOM or spreads beyond its boundaries, imaging may then be necessary. Different imaging modalities can be helpful in examining the FOM.

Diagnosis of lesions in the FOM can be challenging diagnosis asvarious pathologiescan occur in this area. The FOM has different tissue types and specialized anatomical structures , this explains the occurrence of various systemic and local pathologies in this area.

Aim of the work

The aim of this work is to assess the role of CT in assessing lesions of the floor of the mouth with complementary US or MRI if needed.

Patients

The study was carried out on 26 patients referred to the Radio-diagnosis department at Alexandria Main University Hospital diagnosed with floor of mouth lesions during the time period December 2018 to September 2020.

It included patients with lesions extending into the floor of mouth and excluded those with poor renal function, those who are allergic to contrast media, patients with lesions limited to the tongue and those with unstable general condition.

All patients with floor of mouth lesions included in this study were subjected to thorough history taking, review of previous imaging and clinical files as well as renal function tests.

Methods

Biphasic CT was performed in all 26 patients with an initial non contrast phase taken before contrast administration. Complementary MRI was done in 8 cases along with complementary ultrasound in 12 cases.

Further investigations were done for confirmation, five cases were subjected to excisional biopsy, three were subjected to fine needle aspiration followed by core biopsy, two were surgically drained and sent for culture and sensitivity, two were subjected to a trial of broad spectrum antibiotics with follow up and six cases of submandibular stones were surgically removed and needed no further investigation

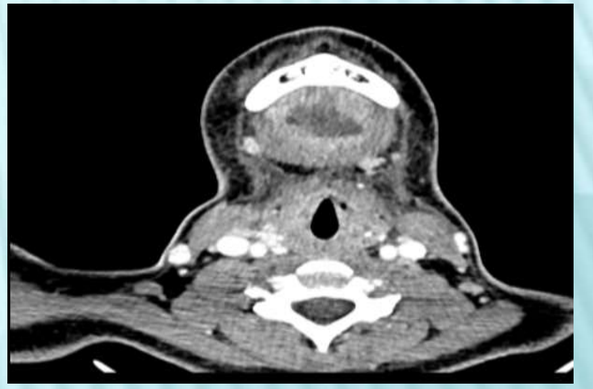
Results

Seventeen males and nine female patients with mean age of 37.29 years.

MDCT helped in classifying lesions according to the nature of the lesion into three groups: cystic, solid and mixed lesions. Solid lesions were the commonest; fourteen (53.8%) of the lesions were of solid nature, seven (26.9%) were cystic in nature and lastly five (19.2%) lesions were of mixed nature.

Lesions were further classified according to their borders into well-defined and ill-defined lesions on MDCT. Nineteen (73%) lesions were well defined on MDCT, while seven (26.9%) lesions showed ill-defined borders.

The lesions were classified according to their pattern of enhancement into homogenous, heterogeneous, peripheral enhancement and non-enhancing lesions. Eleven (42.3%) cases showed homogeneous enhancement, nine (34.6%) showed heterogeneous enhancement, three (11.5%) showed no enhancement, two (7.6%) with peripheral enhancement and finally one (3.8%) with enhancing septae.



Figure(1): Axial contrast enhanced MDCT of a case of floor of mouth abscess showing an enhancing peripheral wall (red arrow).

Conclusion

CT is within reach with rapid image acquisition; this is why it is a primary investigation to broadly differentiate between different pathological processes in the floor of the mouth.

Based upon the MDCT characteristics of the lesion such as tissue density, tissue composition, enhancement pattern and vascularity, MDCT helped to narrow the differential diagnosis.

CT provides key information for proper staging of patients with oral cancer, such as the invasion depth, assessing if there is bone invasion and evaluation of lymph nodes.

Regarding sialolithiasis, MDCT can adequately assess the number of stones, exact location, associated sialectasia as well as sialadenitis, if present.

Limitations of the study were small sample size relative to the wide range of pathologies so we recommend large scale studies.