The Role of Gray-scale and Duplex Sonography In The Diagnosis of Cervical Lymph Node Metastasis From Oral Squamous Cell Carcinoma.

A Thesis
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Abstract

The diagnosis of cervical lymph node (LN) metastasis from oral squamous cell carcinoma (OSCC) is very important and play a role in therapeutic planning. Substantial efforts have been directed toward differentiating non metastatic (NM) from metastatic (M) LNs on the basis of imaging findings of CT, MRI, and US.

The aim of this study was to evaluate the role and the usefulness of gray scale and Duplex ultrasonography in diagnosis of cervical LN metastasis from oral SCC and it's importance as a routine presurgical diagnostic screening tool, before surgical dissection.

This study has been conducted on 35 patients, the sex distribution was (12 females and 23 males) and The age ranged between 15 – 72 years, whose affected by oral SCC with cervical LN metastasis. These patients were seen in the consultant clinic of maxillofacial surgery in Specialized surgical hospital.

All patient's neck were examined by clinical palpation and by high frequency (7.5 – 9MHz) real time gray scale and Duplex US by an experienced sinologist **Dr.Warda S.Lasso** in Baghdad Teaching Hospital / nursing home hospital / Iraq comparing their diagnosis with histopathological results .

Gray scale and Duplex US parameters for differentiating between MLNs and NMLNs have been evaluated for their validity by using statistical methods.

The results of this study indicates that:

1. US parameters of the LNs:

 a.*Nodal shape* :Short axis to long axis ratio assesses in gray scale US.The most accurate cut off point is **0.5** which shows the accuracy 76.7% and the difference is significant .

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b.Intra nodal vascular resistance :Color Doppler indeces RI, PI measure from Duplex US , MLNs tend to be have higher Intra nodal vascular resistance than the reactive LNs .The most accurate cut off points(**RI >0.8,PI >1.5**) achive accuracies(80%,81%) respectively, the differences are significant.

2. Gray scale and Duplex US are superior to clinical palpation in the diagnosis of cervical LNs metastasis from oral SCC with accuracies **(82.8% vs 44.4%).**

3. Gray scale sonography combined with analysis of spectral wave

formsDuplex US is useful in differentiation MLNs form NMLNs and play an important role in the diagnosis of cervical LN metastasis, it can detect small and large M LN.

4. Gray scale and Duplex ultrasonography are accurate and readily applicable as a routine presurgical tool in clinical practice.