Ultrasonography and Doppler ultrasonography in the evaluation of intraosseous lesions of the jaws and its comparison with CT-scan and histopatholgic findings

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Introduction: Ultrasound is recognized as a safe, non invasive and inexpensive method that used commonly in evaluation of soft tissue lesions. This study went to evaluate the efficacy of ultrasound and Doppler ultrasound for evaluation of the intraosseous jaw lesions.

Methods: Prospectively , 57 intraosseous jaw lesions were evaluated in 52 patients which referred for treatment to oral & maxillofacial surgery department. According to ultrasound findings, lesions were classified into cystic, semisolid, solid and inconclusive; and evaluated with Doppler ultrasound. Finally all patients underwent surgical treatment. The correlation between ultrasound/ Doppler ultrasound findings and CTscan/ histological findings was investigated.

Results: Odontogenic cyst was diagnosed by histological examination in 38 lesions and the findings of ultrasound were compatible with the content in 33 lesions (86.8%). With CTscan examination 92.1% of lesions were diagnosed as cystic lesions. vascularization was detected in two lesions. Of the four lesions with histological findings of granuloma, the ultrasound showed all of them correctly as a solid appearance (100%) and vascularization was detected in all of them. CTscan showed soft tissue density in all four lesions. Six lesions can not be evaluated with ultrasound (inconclusive), which four of them were sclerotic on radiography and the other two lesions had thick cortical bone plate on CTscan evaluation.

Conclusion: On the basis of this study, we propose the use of ultrasound as a complementary examination for bony lesions of the jaws before any invasive treatment. Ultrasound can help to differentiate cyst from solid.

Keywords: Bony Jaw Lesions, Ultrasonography, Doppler Ultrasonography