

The Possibilities of Ultrasonography in the Diagnosis of Foreign Bodies into the Soft Tissues of the Maxillofacial Region

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Abstract

Foreign bodies (FB) into the soft tissues of maxillofacial region is a common pathology with which patients turn to the dentists, surgeons and radiologists. This condition account for 3,8 % of all diseases in this region. Nowadays this frequency has increased due to the development of cosmetology. 17,1 million procedures were performed in 2016 according to the American Society of Plastic Surgeons. The definition of the nature of FB is an important aspect because it affects to the tactics of the treatment and planning of surgical intervention. There's only a few works, devoted to the study of ultrasonography (US) of FB and their echo signs didn't improve properly despite the obvious relevance and the risk of complications.

45 patients aged 18 to 45 years with suspicion of the presence of FB were examined. The study was performed on the iU-22 (Philips, the Netherlands) using linear sensors with a scanning frequency of 7–15 and 5–17 MHz, in the B-mode, and in the color Doppler mode.

The revealed FB could be divided into 3 groups: organic (the blade of grass, the rose spike, the husk of a sunflower seed, the helminth), non-organic origin (the metal dental screws, the drainage and intubation tubes, the glass fragment and the piece of plastic) and cosmetic fillers (biodegradable and non-biodegradable) after facial contouring. All FB were clearly visualized and have had their own echo signs, analyzing which helps to assume the nature of the object most accurately.

Thus, high-resolution US allows to visualize FB, located into the soft tissues of maxillofacial region, to predict the nature of it, to determine the localization, the depth of occurrence, the relationship with surrounding structures. Also, US is the informative method at the stage of operation planning for the removal of FB.

Key words: Ultrasonography, Foreign Bodies, Soft Tissues, Maxillofacial Region, Facial Contouring.

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