DOPPLER ULTRASOUND EXAMINATION FOR DIAGNOSIS OF TEMPORAL ARTERITIS EVALUATION OF TEMPORAL ARTERY DUPLEX ULTRASOUND FOR DIAGNOSIS OF TEMPORAL ARTERITIS GIELIS JF Y COLS.

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Temporal arteritis or giant cell arteritis is a form of systemic inflammatory vasculitis closely associated with polymyalgia rheumatica. It may have serious systemic, neurologic, and ophthalmic consequences as it may lead to blindness if the inflammatory process involves the ophthalmic arteries. Early diagnosis is of great importance to avoid serious complications, whereas a false positive diagnosis may expose the patient to unnecessary high doses of steroids. Definitive diagnosis is made after a surgical biopsy of a superficial temporal artery (TA). JF Gelis et.al. from the Department of Thoracic and Vascular Surgery of the Antwerp University Hospital in Belgium, conducted a study to determine whether a non-invasive technique could replace histopathological analysis. Although the superficial temporal artery biopsy is a low-risk and low-morbidity procedure, usually conducted under local anesthesia, the procedure is not free of complications, which in 0.5% of cases may be serious (i.e. visual sequelae, facial nerve lesions, skin necrosis, infections and cerebrovascular accidents). Further, the segmental nature of these lesions implies a high risk of false negatives (44% of negative reports in patients with clinical symptoms of the disease). For these reasons, the possibility of conducting a non-invasive study with a similar specificity rate as that of the biopsy has been explored. Duplex ultrasound of the superficial temporal artery in these cases reveals a hypoechoic halo, compatible with arterial wall edema, and less frequently with stenosis or occlusion. Eighty patients above 50 years of age with clinical symptoms were referred for superficial temporal artery biopsy, who were first screened with Duplex ultrasound for a surrounding halo or occlusion of the TA. Patients presented at least three symptoms according to the American College of Rheumatology criteria (visual disturbances and unilateral pain (headache and/or tongue/jaw claudication, increased erythrosedimentation rate). Thirteen patients were receiving high doses of steroids prior to the study. All examinations were conducted by technicians experienced in the use of 18 MHz probes. The presence of halo was considered when detecting periarterial hypoechoic areas measuring over 0.5 mm in the sagittal diameter. Then the biopsy was performed. The correlation between ultrasound findings, clinical symptoms and pathological diagnosis was determined by the Spearman rho test. Results for the presence of periarterial halo and arterial occlusion showed a sensitivity of 53.3% and 20.0% and specificity of 91.9% and 100% respectively. Also, high sensitivity and specificity values were found in relation to clinical symptoms. From the results it is concluded that in patients that do not present 3 or more symptoms and have a negative ultrasound test, the attending physician may be certain that there is no temporal arteritis. At the same time, the presence of highly suspicious symptoms along with positive data in the image study suggest the possibility of initiating treatment without performing a biopsy. These results support the argument against performing a biopsy as a first step when giant cell arteritis is suspected, and investigators add that the study may be highly beneficial in the follow-up to document regression of the arteritis with steroid treatment. The authors suggest further multicenter studies of a larger scale to confirm the findings.