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THYROID SCINTIGRAPHY WITH 99 Tc-MIBI IN PATIENTS ON AMIDARONE THERAPY

Abstract
Amiodarone (AMD) is a potent antiarrhythmic drug, liposolubile bensophuran derivative, containing 75 mg of iodide per 200 mg of active substance (2 atoms of iodine per molecule or 37,2% of molecular weight) and with elimination halflife of several months. Metabolism of 200 mg of AMD yields approximatively 6 mg/day of inorganic iodide in circulation . In susceptible patients chronical iodine overload and/or direct citotoxicity of the drug can induce thyroid disfunction (TD) – hypothyreosis (AIH), thyrotoxicosis (AIT) or subclinical TD. Cellular uptake of 99mTc-MIBI, cationic complex, is related to its charge and lipophilicity and highly negative membrane potential in the endomitochondrial element which traps the tracer within the organelle's matrix not organ specificly. MIBI is not retained in irreversibly ischemic cells and coukl be a highly sensitive marker of cell viability. It provides good quality thyroid scans. It seems that TSH and iodine overload do not influence MIBI uptake in the thyroid. Our aim was to estimate capability of MIBI to visualise thyroid tissue in our patients on chronical iodine overload by amiodarone medication. Scintigraphy was done 15-30 minutes after i.v. application of 222-296 MBq 99mTc-MIBI using gamma camera Siemens Diacam, matrix 256x256, with high resolution parallel colimator. Results are shown in the table and discussed in the article.

Key words: Amiodarone, 99mTc-MIBI thyroid scintigraphy