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Study Of Toxicity Of Amiodarone-Anti-Arrhythmic Drug-In Therapeutic Doses On Thyroid And Lung Functions In A Period Of Six Months

Thesis

Submitted To The Faculty Of Medicine, Tanta University
For Partial Fulfillment Of The Requirements Of The Master Degree

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بسر الله الرجمن الرجيم

قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم.

صدق الله العظيم سورة البقرة (٣٢)

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Introduction

Amiodarone is a benzofuran derivative approved by the Food and Drug Administration (FDA) for the treatment of patients with life threatening ventricular tachyarrhythmias when other drugs are ineffective or not tolerated (Braunwald, 1996).

It is a class III antiarrhythmic agent discovered in 1961, and was originally marketed as an antianginal agent in 1967 (Lancellotti et.al., 1998).

Although amiodarone is considered one of the most effective and commonly used antidysrhythmic agent, its effects are still the subject of debate. Of the greatest concern is amiodarone-induced pulmonary toxicity. Amiodarone has recently been suggested as a possible cause of pulmonary fibrosis (Card et.al., 1998). Amiodarone-induced pulmonary toxicity is one of the most life-threatening complications of this therapy. It is easily missed by any physician who is suddenly confronted with nonspecific pulmonary complaints during amiodarone treatment therapy (Jessurun et.al., 1998).

In view of its high iodine content, the drug was studied for its possible influence on thyroid function. These studies demonstrated that amiodarone exerts important effects on peripheral metabolism of thyroid hormones and thyroid function as well. It inhibits conversion of T₄ to T₃ in vivo. (Figge et.al., 1990, Polikar et.al., 1993).

Hepatic dysfunction from amiodarone is also well recognised (Harris et.al., 1983). The liver enzymes rise in patients on large doses of amiodarone, but clinically evident hepatic dysfunction has not been detected. Cirrhosis occurs uncommonly and may be fatal (Braunwald E, 1996).

Other adverse effects of amiodarone include neurological dysfunction, photosensitivity, bluish skin discoloration, corneal microdeposits and gastrointestinal disturbances. (Davies et.al., 1992).

Aim of the work

The aim of this study is to evaluate the toxic effects of Amiodarone anti-arrhythmic drug given in therapeutic doses over a period of 3 to 6 months on thyroid and pulmonary functions and epidemiological study of the cases admitted to the Cardiology Department of Tanta University Hospital; Giving way to learning when is the best time to stop the drug or propose a safe dose regimen.

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