



## Amiodarone-induced thyroid dysfunction



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### Introduction

It has been found that amiodarone can cause a number of side effects, including thyroid dysfunction with an incidence of 1-27%. The incidence in the Republic of Moldova increased from 2% to 13.6% which imposed the need to analyze the mechanisms of thyroid dysfunction induced by amiodarone.

### Keywords

Amiodarone, hypothyroidism, hyperthyroidism, mechanism of action.

### Purpose

was to elucidate the mechanisms of amiodarone-induced thyroid dysfunction and variants of clinical manifestations.

### Material and methods

The articles in the PubMed database were selected and analyzed by keywords: “amiodarone”, “amiodarone toxicity”, “hypothyroidism”, “hyperthyroidism”.

### Results

It has been estimated that amiodarone-induced thyroid dysfunction may be caused by excessive iodine intake and structural features by the following **mechanisms**:

1. influencing the feedback principle to regulate thyroid function
2. thyroid hormone synthesis disorder
3. alteration of thyroid hormone metabolism
4. blockade of T4 and T3 penetration into peripheral tissues
5. decreased T3 interaction with receptors
6. decreased reactivity of adrenergic receptors
7. the inability to avoid the Wolff-Chaikoff effect
8. amplification of autoimmune processes
9. direct cytotoxic action on thyroid tissue
10. uncontrolled synthesis of thyroid hormones (iodine-based effect)

### Conclusions

Amiodarone-induced thyroid disorders were manifested by euthyroid hyperthyroidism, subclinical and manifest hypothyroidism, subclinical and manifest hyperthyroidism with individual variations depending on geographical region, iodine deficiency, individual characteristics of patients (age, sex, presence of thyroid pathology etc.).

Hyperthyroidism

Hypothyroidism

1. Areas with iodine deficiency
2. Men
3. Elderly

1. Areas without iodine deficiency
2. The women