



The role of antithyroglobulin, antiperoxidase and anti-TSH autoantibodies in Amiodarone Induced Thyrotoxicosis or Amiodarone Induced Hypothyroidism (a two-center study).



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INTRODUCTION

It has been reported in a recent study that elevated serum concentrations of TSH receptor (TSHR), antithyroglobulin (Tg), antiperoxidase (TPO) autoantibodies (Abs) may be observed in subjects treated for amiodarone induced thyrotoxicosis (AIT) type I, decreased in type II of AIT, or changed in amiodarone induced hypothyroidism (AIH). This study's purpose was to identify and analyse the changes of Tg-Abs, TPO-Abs and TSHR-Abs titer in euthyroid, hyperthyroid (AIT) and hypothyroid (AIH) patients.

RESULTS

Serum Tg-Abs were not elevated in any of the studied groups, while the titers did not differ between examined patients. TPO-Abs and Tg-Abs were within the normal ranges in all groups. The titers of serum TSHR-Abs were not elevated, we found statistically significant differences between groups: A and C ($P = 0.001$), B and C ($P = 0.02$), C and D ($P = 0.02$). In most of the cases the titers of serum TPO-Abs were not elevated in all the studied groups. Statistically significant differences were observed between groups: A and C ($P = 0.02$), B and C ($P = 0.001$), C and D ($P < 0.05$).

PATIENTS AND METHODS

The study consisted of 217 patients diagnosed in the Chair and Department of Endocrinology, Metabolism and Internal Medicine, Poznan, and of 63 patients treated in the Department of Nuclear Medicine in Warsaw, Poland between January 2003 and December 2014. Titers of serum TPO-Abs, Tg-Abs, TSHR-Abs were analyzed retrospectively in euthyroid patients with the history of hyperthyroidism prior to re-administration of amiodarone (group A), patients with AIT who discontinued the AM therapy (group B), patients with AIT chronically treated with AM (group C), and hypothyroid patients (AIH, group D).

CONCLUSIONS

In almost cases normal or slightly decreased titers of TPO-Abs, Tg-Abs, TSHR-Abs were observed in the studied groups. The observed statistically significant differences between experimental groups were not clinically relevant. Discontinuation or continuation of the AM therapy had no influence on the titer of autoantibodies. Furthermore, the clinical classification distinguishing 2 types of AIT does not make it possible to differentiate according to titer of Abs, TSHR-Abs in particular.

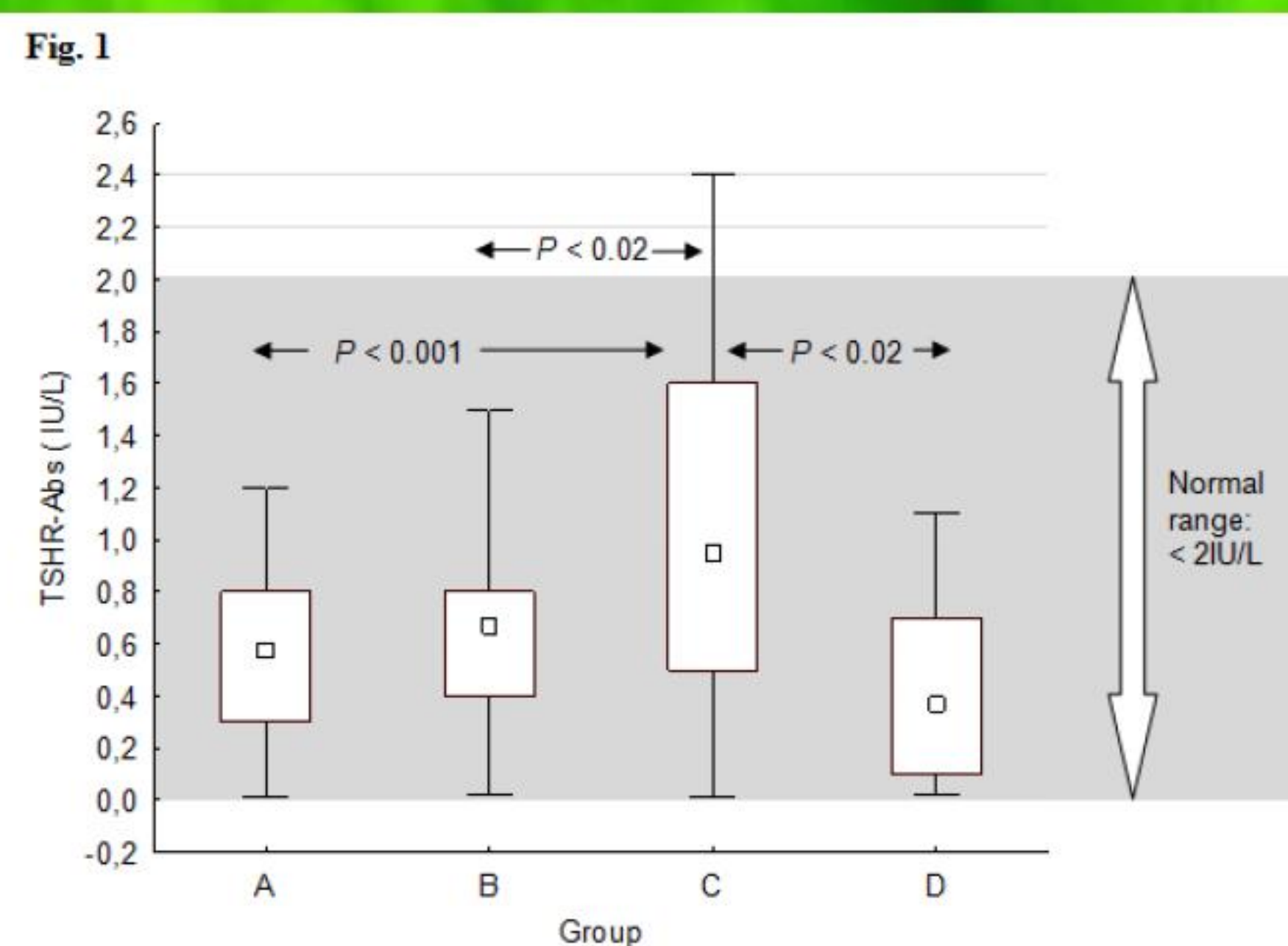


Fig. 1
Distributions of TSH receptor autoantibodies (TSHR-Abs) titer in all studied groups. Group A - euthyroid patients, group B - hyperthyroid patients with normal RAIU(+) as AIT type I, group C - hyperthyroid patients with extremely reduced RAIU(-) as AIT type II, and group D - hypothyroid patients (AIH, group D).

Data are presented as means \pm standard deviation.

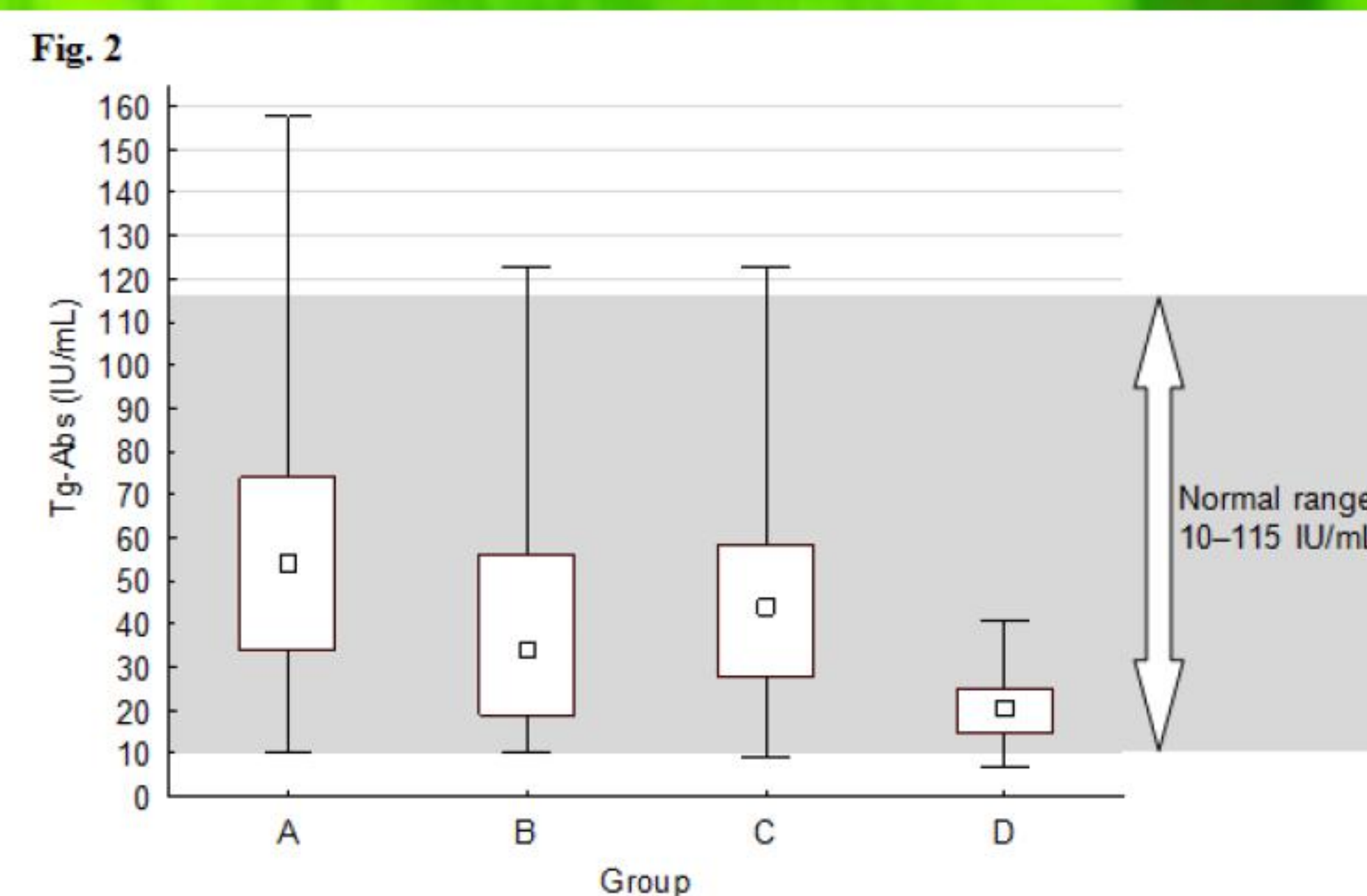


Fig. 2
The titer of antithyroglobulin autoantibody (Tg-Abs) in serum in all studied groups. Group A - euthyroid patients, group B - hyperthyroid patients with normal RAIU(+) as AIT type I, group C - hyperthyroid patients with extremely reduced RAIU(-) as AIT type II, and group D - hypothyroid patients (AIH, group D).

Data are presented as means \pm standard deviation.

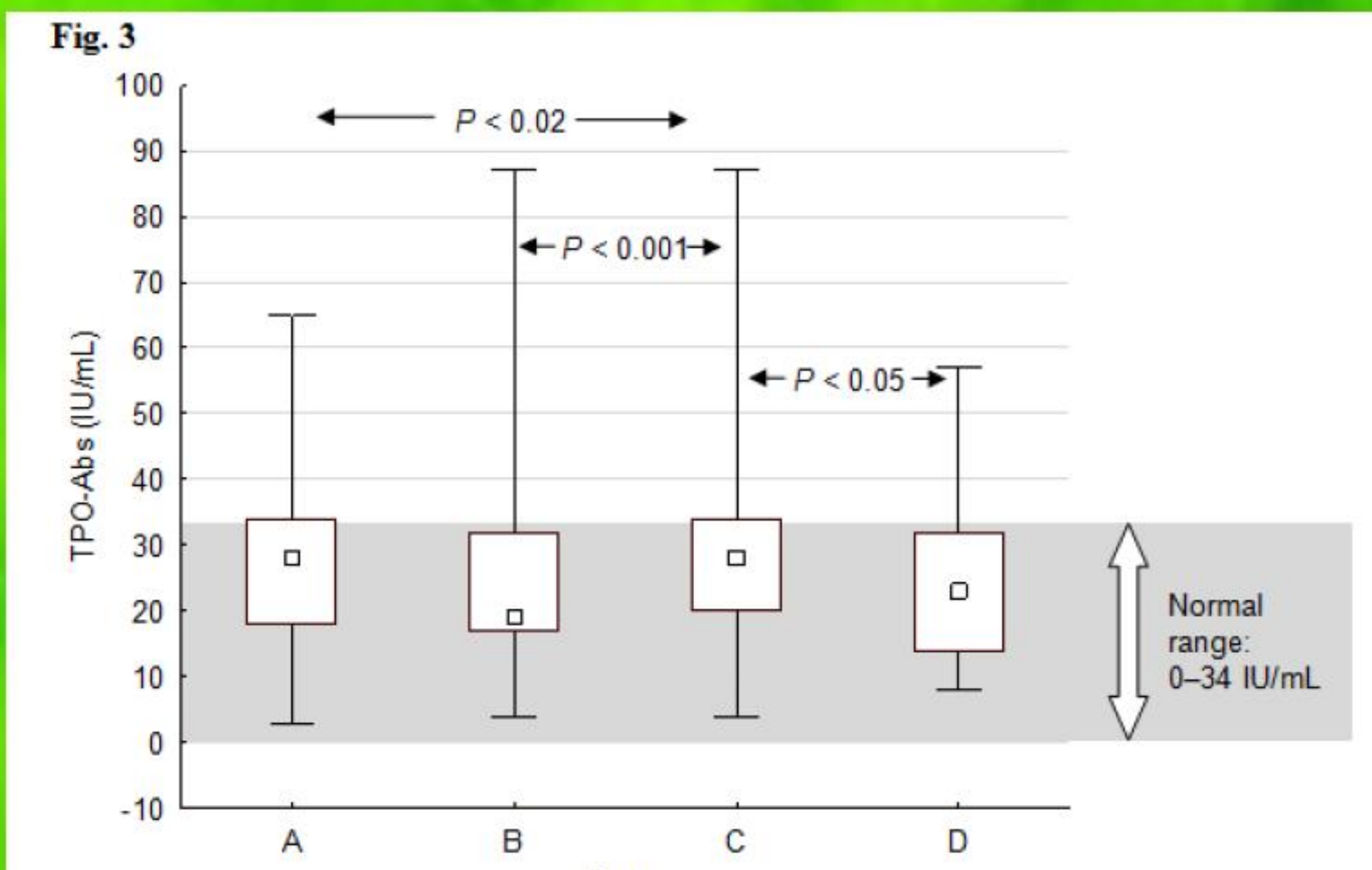


Fig. 3
The level of thyroperoxidase autoantibodies (TPO-Abs) titer in all studied groups. Group A - euthyroid patients, group B - hyperthyroid patients with normal RAIU(+) as AIT type I, group C - hyperthyroid patients with extremely reduced RAIU(-) as AIT type II, and group D - hypothyroid patients (AIH, group D).

Data are presented as means \pm standard deviation.

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