

TPO. Ab as an Autoimmune Response or Index of Thyroid Hypofunction in Breast Cancer?

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INTRODUCTION

The observed association between thyroid disorders and breast cancer has provoked many investigations. One area where there is some, although far from universal, agreement is the finding of an increased prevalence of antithyroid autoantibodies in breast cancer patients compared to control.

RESULTS

TPO.Ab was undetectable (≤ 2.0 kIU/L) in 82.1% of controls compared to 51.8 % of breast cancers; $p < 0.001$)

Thyroid Antibody % Prevalence Elevated and Detectable

Groups	N	TPO.Ab \pm Tg.Ab	Tg.Ab Alone
Controls	226	14.0 (3.9)	4.2
Breast Cancer	907	22.9 (24.5)	4.3

Elevated TPO.Ab \pm Tg.Ab > 20.0 kIU/l

Detectable TPOAb \pm Tg.Ab 2.1- 20.0 kIU/l

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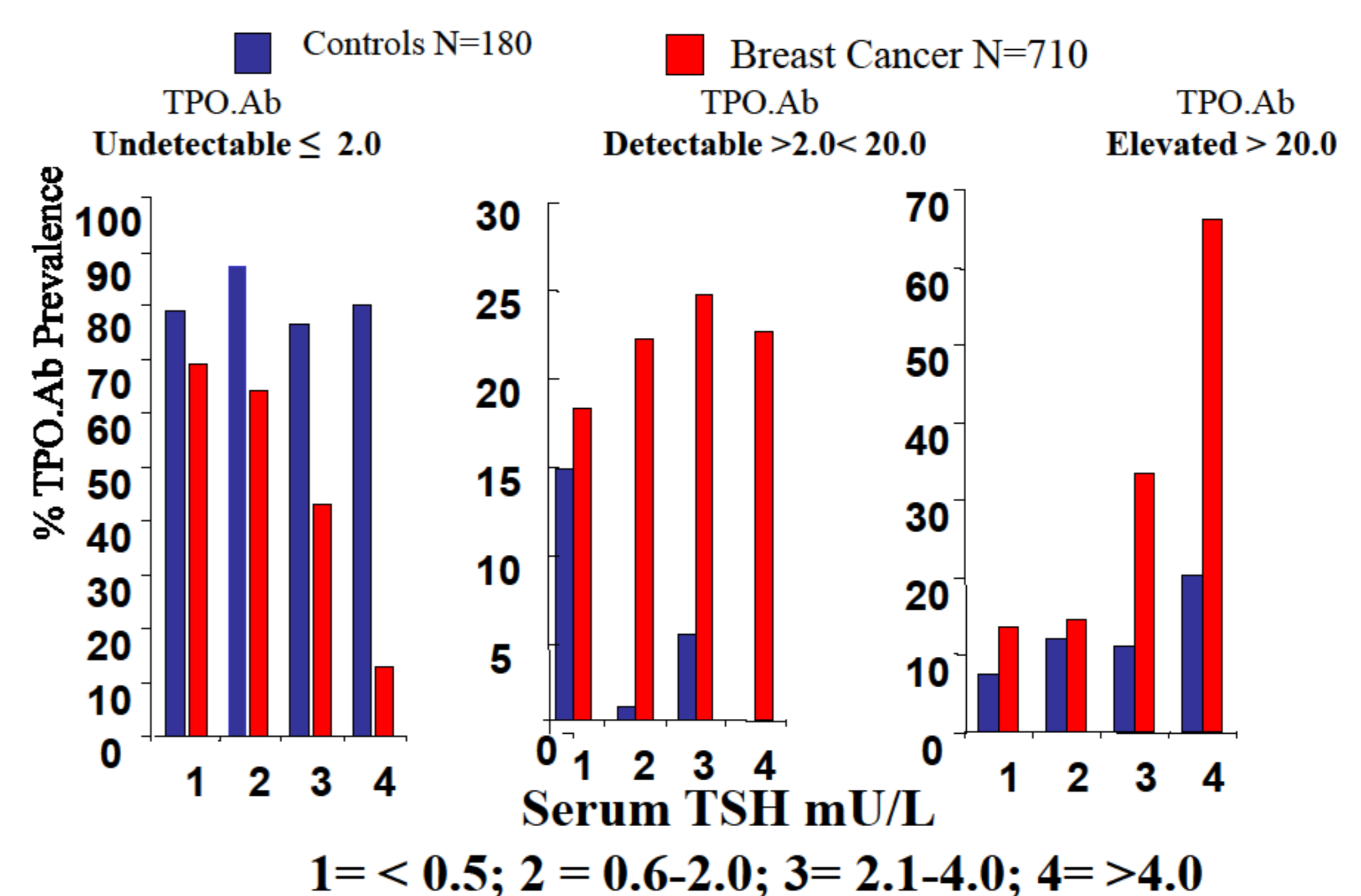
SUBJECTS AND METHODS

In this study we looked at thyroid antibodies in terms both of their positivity, either detectability or elevation, and their relationship to serum TSH in patients with breast cancer (N=907) compared to 179 postmenopausal controls.

TPO.Ab and Tg.Ab were measured using highly sensitive radioimmunoassays (RSR, Cardiff, UK)

- Antibody detectability reference ranges in terms of NIBSC standards were defined as :-
- Undetectable ≤ 2.0 kIU/l
- Detectable 2.1 - 20.0 kIU/l
- Elevated > 20.0 kIU/l
- Serum TSH was measured by immunoassay (Abbott AxSYM).
(Reference range 0.3-4.0 mU/L)

% TPO.Ab \pm Tg.Ab Positivity (Detectable + Elevated) within Patient Groups Subdivided by Serum TSH Interval



CONCLUSIONS

- The prevalence of thyroid autoantibody positivity was significantly greater in postmenopausal patients with breast cancer than in female controls.
- A tendency towards higher TSH applied to patients with BrCa who had either detectable or elevated TPO.Ab.
- This finding suggests that even the marginally detectable TPO.Ab levels described in this study may represent more than so called "assay noise".
- The findings indicate that TPO.Ab positivity may be associated with a subtle thyroid dysfunction which we and others have suggested may be beneficial in terms of breast cancer outcome.

