

## Experimental non Immunological Hypersensitivity Type I Reaction in the Conjunctiva of Hyperthyroid Rats

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### AIM

The influence of thyroxine ( $T_4$ ) on the cellular response following ischemic stress has been partially attributed to its action on the hsp70 and the p38 MAPK (1). Considering that the type I hypersensitivity reactions might contribute to the cellular stress response, the aim of the present study was to investigate the anaphylactoid reaction in the conjunctiva of hyperthyroid rats.

### METHODS

One group ( $n=19$ ) of male Wistar rats received 10 $\mu$ l PBS (control) in the lower fornix of the conjunctiva and 10 $\mu$ l of 100 mg/ml compound 4880 (C4880) in the contralateral eye. A second group of rats ( $n=5$ , hyperthyroid rats) received  $T_4$  (25 $\mu$ g/100g b.w. daily) for 14 days (1). The administration of PBS and C4880 was performed as in the first group and the animals were sacrificed 45 min following installation of the agents. The conjunctivae were removed and the histamine content was determined fluorometrically, following extraction of the amine (2). The statistical evaluation of the results was performed using t-test and ANOVA.

### RESULTS

The conjunctival histamine content following local administration of C4880 was  $43.4\pm 4\%$  and  $54.4\pm 11\%$  in normal and hyperthyroid rats, respectively ( $p<0.02$  vs control and  $p>0.2$  between them). The differences of the histamine levels between the control conjunctivae of the two groups were not statistically significant ( $p>0.6$ ).

### CONCLUSIONS

These results suggested for the first time that, in the conjunctiva of the hyperthyroid rat, the non-immunological early phase histamine release was comparable to that in the normal animals. Similar reports in the literature are very limited and only one earlier study has reported that the delayed type hypersensitivity reaction in the skin was increased significantly in hyperthyroid animals (3).

### REFERENCES

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