

Adjunctive cholestyramine therapy for thyrotoxicosis.

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Source

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Abstract

OBJECTIVE: Initial therapy of thyrotoxicosis usually includes beta-blockade for symptom relief and thionamides to block new thyroid hormone synthesis. In view of the increased enterohepatic circulation of thyroxine (T4) and triiodothyronine (T3) in thyrotoxicosis, we proposed that cholestyramine, an anion exchange resin which binds iodothyronines, when used adjunctively with thionamides and a beta-blocker, would lower serum iodothyronine levels faster than would standard therapy alone.

DESIGN: A double blind placebo-controlled cross-over design was used with patients randomly assigned to either the treatment or control groups. They received their initial treatment for two weeks (Phase 1) followed by a one-week washout period, and then crossed to the opposite treatment for two weeks (Phase 2). Standard therapy included atenolol 50 mg daily, individualized dosages of methimazole and either 4 g of cholestyramine or 4 g of placebo powder four times per day.

PATIENTS: Fifteen patients with thyrotoxicosis (14 Graves' disease, 1 toxic adenoma) participated in this study.

MEASUREMENTS: Total and free thyroxine and triiodothyronine, as well as thyroid-stimulating immunoglobulin and thyrotrophin-binding inhibitory immunoglobulin, were measured weekly.

RESULTS: Seven patients received cholestyramine and eight patients received placebo during Phase 1. A more rapid decline in all thyroid hormone levels was seen in the cholestyramine-treated group ($F = 4-7$, $P < 0.01$) than in the placebo group ($F = 2-3.1$, $P = 0.05$). In Phase 2, the eight patients who received cholestyramine showed an additional decline in free thyroxine from weeks one to two, but the overall rate of decline in hormone levels was not different between the groups. Immunoglobulin levels remained unaffected regardless of group, treatment, or time.

CONCLUSIONS: We conclude that cholestyramine is a safe and effective adjunctive agent in the treatment of thyrotoxicosis and that its greatest efficacy may be during the first few weeks of treatment.

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