INITIAL RESPONSE TO THIONAMIDE MEDICATION IN YOUNG PEOPLE DIAGNOSED WITH THYROTOXICOSIS

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INTRODUCTION

Patients with thyrotoxicosis can be treated with an antithyroid drug (ATD) using either: 1) a blocking dose with thyroid hormone then replaced (block and replace, BR) or 2) ATD can be given alone with the dose adjusted up or down according to thyroid hormone concentrations (dose titration, DT). We assessed the response of young people randomised to BR or DT during the first 6 months post-diagnosis.

DESIGN

A multi-centre, phase III, open-label trial of newly diagnosed thyrotoxicosis patients randomised to BR/DT. The primary outcome of the trial was to compare biochemical control in the BR and DT groups beyond 6 months (prev reported). Here we present data in the BR and DT groups for the first 6 months post-diagnosis.

RESULTS

- Data available for 80 patients (baseline) and 78 patients (61 female) at 6 months.

- Mean CBZ dose was 0.9mg/kg/day (BR) and 0.5mg/kg/day (DT).

- No difference in time to achieve non-suppressed TSH concentrations; 16 of 39 patients (BR) and 11 of 39 (DT) had suppressed TSH at 6 months.

- Patients with suppressed TSH had higher mean baseline FT4 levels (72.7 v 51.7 pmol/l; 95% CI for difference 1.73, 31.7; p=0.029).

- Time to normalise FT4 levels was reduced in DT (log rank test, p=0.049) with 50% attaining normal FT4 at 28 days (95% CI 25, 32) versus 35 days in BR (95% CI 28, 58).

- Mean BMI Z-score increased from 0.10 to 0.81 at 6 months (95% CI for difference 0.57, 0.86; p<0.001) and was greatest in patients with higher baseline FT4 concentrations.

- 43/80 (53.8%) patients had no signs of thyroid eye disease.

- 34/80 (42.5%) patients had mild signs including lid retraction, stare and mild proptosis.

- No patient had severe orbitopathy at presentation.

CONCLUSIONS

- Newly diagnosed patients started on carbimazole at 0.75mg/kg and were then randomised to either BR or DT.

- We examined baseline patient characteristics, cumulative CBZ dose, time to serum TSH/FT4 normalisation and BMI Z-score.

- Paired t-tests compared changes in z-scores during study, unpaired t-tests were used to detect changes between regimens.

- Kaplan-Meier curves determined time to 50% normalisation of T4/TSH.

METHOD

- DT-treated patients normalised FT4 concentrations more quickly than BR.

- This difference may reflect a number of factors including the simplicity of the DT regimen (one medication rather than two) with associated improved compliance.

- 94% of patients have normal FT4 levels after six months but 33% still have TSH suppression.

- The risk of excessive weight gain should be discussed in detail with families when ATD is commenced.

REFERENCES


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