

Side effects of Steroid therapy in Graves' orbitopathy: Comparison of two different protocols – parenteral vs combined parenteral and oral

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OBJECTIVES

Glucocorticoids (GC) are the treatment of choice for moderate-to-severe Graves' orbitopathy (GO), but optimal treatment is still undefined. The serious side effects are great concern of GC therapy and the aim of the present study was to evaluate the (tolerability) the side effects of two different treatment protocols.

METHODS

One-hundred and thirty-two patients were treated consecutively with combined intravenous and oral glucocorticoids (Combined GC group) in the initial three years period (66 patients, 49±10 years), and with intravenous glucocorticoids (IVGC group) in the next period (66 patients, 50±11 years). Combined GC therapy included 500mg of methylprednisolone in 500ml of saline solution for two alternative days (day 1 and day 3) followed by oral prednisone tapering dose that was repeated each month for the next 5 months. Cumulative dose was 10,2g. IVGC therapy included infusions of 500mg of methylprednisolone for the first six weeks, and then infusions of 250mg for the remaining six weeks. Cumulative dose was 4,5g. Patients were evaluated at baseline and at the end of therapy (after 6 and 3 months, respectively).

RESULTS

Combined GC therapy induced significantly more side effects in comparison to IVGC (49/66, 74% vs. 28/66, 42%, $p < 0.001$), including weight gain defined as increase of >3kg (36pt, 55%), hirsutism in female patients (49%), increase in cholesterol (42%), myalgias (33%), sleeplessness (17%), urinary infections (15%), palpitations and restlessness (15%), gastrointestinal discomfort (12%) and development of diabetes (8%). Certain patients in Combined group developed serious infections (herpes zoster infection and pulmonary tuberculosis). The changes in IVGC group were similar, but less pronounced. The most frequent adverse effects were the elevation of lipid levels (35%) and weight gain (22%). However, one patient had myocardial infarction during pulse IVGC therapy.

CONCLUSIONS

Side effects were more prevalent in the Combined group, as a consequence of higher cumulative dose (10.2g vs 4.5g), longer duration of therapy (6 vs 3 months), and treatment schedule (ORGC+IVGC vs. IC GC). In IV group developed most serious event and the total number of side effects was higher than previously reported. Data suggest that appropriate selection of patients and careful monitoring during GC treatment is necessary

