Ocular Motor Dysfunction in Ocular Myasthenia Gravis:
Effects of Treatment
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Objective: The optimal treatment of the ophthalmoparesis associated with ocular myasthenia gravis (OMG) remains unknown. We evaluated the efficacy of prednisone and pyridostigmine in reducing diplopia and ocular motor dysfunction in patients with OMG.

Methods: Review of records from a clinical database from one neuro-ophthalmology service of patients presenting with OMG between 1990 and 2002, excluding those who developed generalized MG within the first month after diagnosis. IRB approval was obtained for this study.

Participants/Interventions: Non-randomized, unmasked, therapy was given. Fifty-five patients with diplopia in primary or downward gaze and clinically demonstrable extraocular muscle dysfunction received prednisone. Thirty-four patients who had contraindications to steroids or who refused treatment with prednisone received pyridostigmine only. Over four days the daily prednisone dose was increased to 50-60 mg and then gradually reduced to 10 mg, followed by further reduction as tolerated. The pyridostigmine dose was begun at 180 mg daily and increased as tolerated.

Main Outcome Measures: Follow up evaluations, performed at 1, 3-6, 12, and 24 months, detailed the frequency of ptosis and diplopia and the amount of ocular motor deviation in primary and downward gaze.

Results: The prednisone and pyridostigmine groups were similar for age, gender, acetylcholine receptor antibody level, prism cover test results for primary and downward gaze, diplopia in primary and downward gaze, and unilateral ptosis. Bilateral ptosis was present in 32.4% of the pyridostigmine group and 10.9% of the prednisone group (p=0.02).

The prednisone group showed recovery in primary gaze diplopia, downgaze diplopia, unilateral ptosis, or bilateral ptosis that remained in 26.5%, 24.5%, 14.3%, and 2% respectively at one month. The benefit persisted at 3-6, 12, and 24 months except for the bilateral ptosis. The pyridostigmine group did not show the same recovery; primary gaze diplopia, downgaze diplopia, unilateral ptosis, or bilateral ptosis remained in 93.1%, 82.8%, 50%, and 23.3% of patients after one month of treatment. The prism cover results improved (p=0.003) in the prednisone group only. In the prednisone group, four patients had no response to therapy. Among the 51 prednisone-responsive patients, there were 33 recurrences in 26 patients. Twelve patients, all prednisone-treated, had remissions. Except for three patients who developed diabetes, no patient developed a clinically significant systemic corticosteroid complication.

Conclusion: These results suggest that 50 to 60 mg daily prednisone followed by lower doses (10 mg or less) has a benefit of reducing diplopia that lasts for at least two years in approximately 70% of patients.

References:

Keywords: ocular myasthenia gravis, prednisone, pyridostigmine