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## Clinical study of Myasthenia Gravis associated with other autoimmune diseases

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### - Abstract -

**Background & Object** : Myasthenia gravis(MG) is an autoimmune disease due to binding of antibody to acetylcholine receptors on the muscle membrane. It is well known that other autoimmune diseases infrequently accompany myasthenia gravis. The aim of this study was to evaluate the clinical significance of associated autoimmune diseases(AAD) and compare prognosis between MG with AAD and MG without AAD. **Method** : A total of 65 MG patients(24 men and 41 women) were enrolled at this study. From the clinical records of these patients, we investigated the clinical characteristics and prognosis of MG with AAD and compared these data with those of MG without other such diseases. **Results** : AAD were found in 10 of 65 cases(15%). 9 cases of 10 MG with AAD were generalized MG type. The most common disease was thyroid disorder. The rate of AAD was higher in thymic abnormal patients. There was no significant remission rate difference between MG with AAD and MG without AAD, but the percentage of patients experienced crisis was higher in MG with AAD. **Conclusion** : The occurrence of AAD may suggest a more generalized autoimmune disturbance that could be associated with a less favorable prognosis.

**Key Words** : Myasthenia gravis, Autoimmune diseases

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American Rheumatism Association 4

4.

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(remission)

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Ossemaris

가 4

10

40%

(remission)

(crisis)

21

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38%

55

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가 10

5

55

11

(Table 2).

1.

65

24

41

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47

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8%<sup>5</sup>

24%<sup>6</sup>

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**Table 1.** Clinical findings of Myasthenia gravis with other autoimmune disease

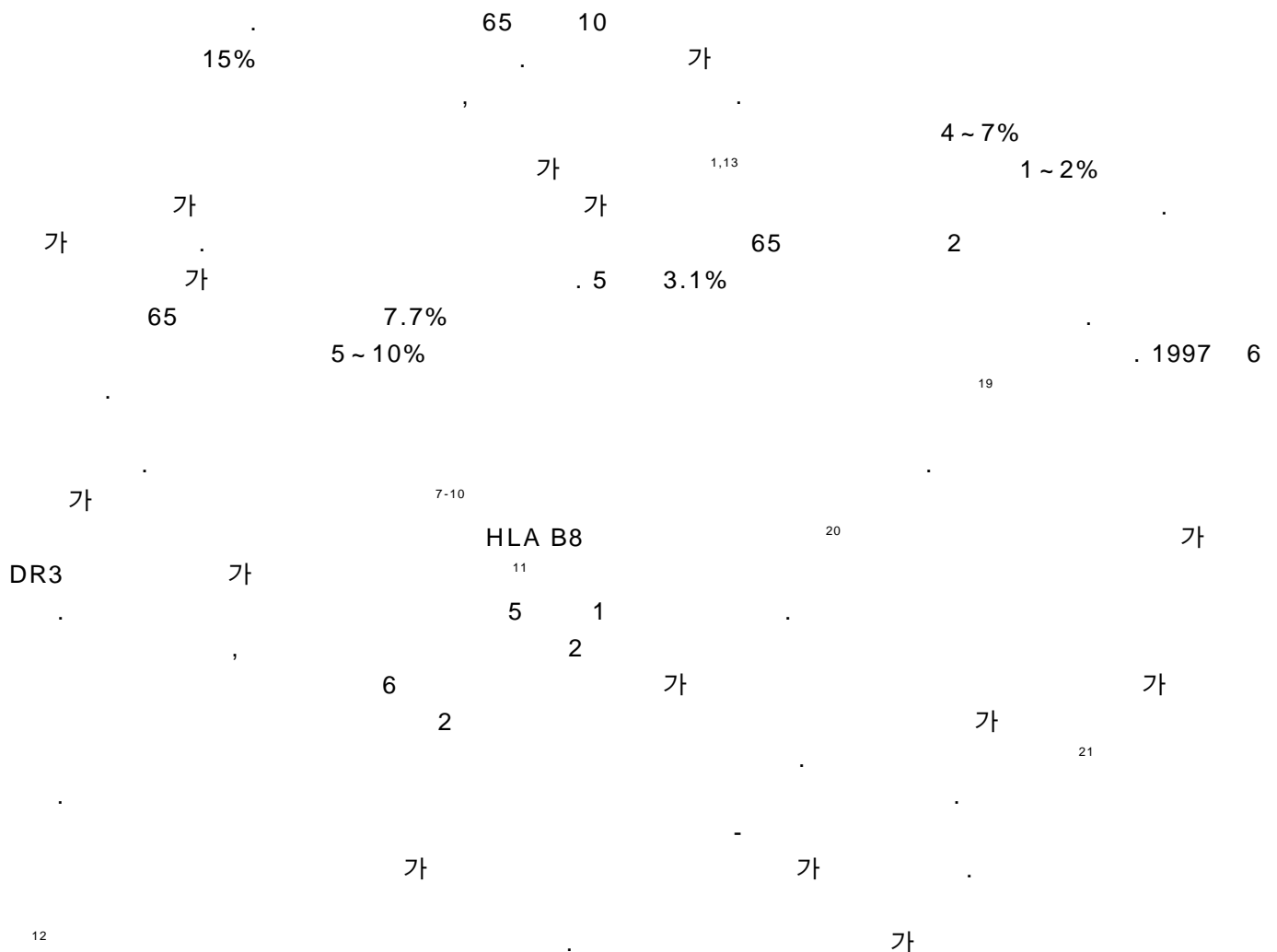
Sex	Onset Age(y)	Severity	Thymus	AchR Ab	Other Autoimmune Disease
M	64	IIb	Thymoma	12.42	Psoriasis, Rheumatoid arthritis, Hashimoto thyroiditis
M	62	IIa		10.85	Hashimoto thyroiditis
F	46	IIa		8.50	Rheumatoid arthritis
F	24	IIb	Hyperplasia	9.73	Parotitis, Uveitis
F	37	IIa	Hyperplasia	10.28	Idiopathic thrombocytopenia
F	28	IIb	Hyperplasia	8.94	Alopecia universalis, Vitiligo, Sick euthyroid syndrome
F	35	IIb	Hyperplasia	3.27	Hyperthyroidism(Grave's)
F	49	I		2.51	Hyperthyroidism(Grave's)
F	58	IIa	Thymoma	7.57	Hashimoto thyroiditis
F	46	IIb		10.42	Guillain-Barre' syndrome

Severity = Ossermann's classification, Thymus = pathologic finding of thymus, AchR Ab = titer of acetylcholine receptor antibody(pmol/ml; normal range <0.2)

**Table 2.** Prognosis of MG with autoimmune disease and MG without autoimmune disease

	MG with other autoimmune disease(N=10)	MG without other autoimmune disease(N=55)
Remission(person)	4(40%)	21(38%)
Crisis(person)	5(50%)	11(20%)

MG = myasthenia gravis, Remission = the patient has had no symptoms or signs of MG for at least 6 months and has received no therapy, Crisis = the patient has experience of ventilator support because of respiratory failure.





- Singapore:McGraw-Hill, 1998;1880-1885.
5. Goulon M, Estournet B, Tulliez M. Myasthenia gravis and associated diseases. *Int J Neurol* 1980;14:61-72.
  6. Oosterhuis HJGH. The natural course of myasthenia gravis: a long term follow-up study. *J Neurol Neurosurg Psychiatry* 1989; 52:1121-1127.
  7. Schumacher M, Camp S, Maulet Y. et al. Primary structure of Torpedo California acetylcholinesterase deduced from its cDNA sequence. *Nature* 1986;319:407-409.
  8. Weetman AP, Tse CK, Randall WR, Tsim KWR, Barnard EA. Acetylcholinesterase antibodies and thyroid autoimmunity. *Clin Exp Immunol* 1988;71:96-99.
  9. Heufelder AE, Bahn R. Evidence for the presence of a functional TSH-receptor in retroocular fibroblasts from patients with Grave's ophthalmopathy. *Exp Clin Endocrinol* 1992;100: 62-67.
  10. Faryna M, Nauman J, Gardas A. Measurement of autoantibodies against human eye muscle plasma membranes in Grave's ophthalmopathy. *BMJ* 1985;290:191-192.
  11. Feltkamp TEW, Van Der Berg-Loonen PM, Nijenuis LE. Myasthenia gravis, autoantibodies and HLA antigens. *BMJ* 1974;1:131-133.
  12. Garlepp MJ, Dawkins RL, Christiansen FT et al. Autoimmunity in ocular and generalized myasthenia gravis. *J Neuroimmunol* 1981;1:325-332.
  13. Oosterhuis HJGH, de Haas WHD. Rheumatic diseases in patients with myasthenia gravis. *Acta Neurol Scand* 1968;44: 219-227.
  14. Shultz A, Hoffacker V, Wilisch A, et al. Neurofilament is an autoantigenic determinant in myasthenia gravis. *Ann Neurol* 1999;46:167-175.
  15. Sommer N, Willcox N, Harcourt GC, Newsom DJ. Myasthenic thymus and thymoma are selectively enriched in acetylcholine receptor reactive T cells. *Ann Neurol* 1990;28:312-319.
  16. Hoffacker V, Schultz A, Tiesinga JJ. et al. Thymomas alter the T-cell subset composition in the blood: a potential mechanism for thymoma-associated autoimmune disease. *Blood* 2000;96: 3872-3879.
  17. Tola MR, Caniatti LM, Casetta I. et al. Immunogenetic heterogeneity and associated autoimmune disorders in myasthenia gravis: a population-based survey in the province of Ferrara, northern Italy. *Acta Neurol Scand* 1994;90:318-323.
  18. Christensen PB, Jensen TS, Tsiropoulos I, et al. Associated autoimmune diseases in myasthenia gravis: A population-based study. *Acta Neurol Scand* 1995;91:192-195.
  19. Kubota A, Komiyama A, Hasegawa O. Myasthenia gravis and alopecia. *Neurology* 1997;48:774-775.
  20. Wakata N, Sumiyoshi S, Tagaya N, Okada S, Araki M. A case of myasthenia gravis accompanied by invasive thymoma, alopecia areata and dry mouth. *Clin Neurol Neurosurg* 1995; 97:161-163.
  21. Topaktas S, Deners S, Kenis M, Dalkara T. Myasthenia gravis and vitiligo. *Muscle Nerve* 1993;16:566-567.
  22. , , . 2000;2:135-138.
  23. Carlander B, Touchon J, Georgesco M, Cadilhac J. Myasthenia gravis and recurrent Guillain-Barre syndrome. *Neurology* 1991; 41:1848.
  24. Regev I, Bornstein N, Carasso R, Vardi Y. Acute polyneuropathy combined with myasthenia gravis. *Acta Neurol Scand* 1982;65:681-682.
  25. Mineo TC, Biancari F, D'Andrea V. Myasthenia gravis, psychiatric disturbances, idiopathic thrombocytopenic purpura, and lichen planus associated with cervical thymoma. *J Thorac Cardiovasc Surg* 1996;111:486-487.
  26. Ho SL, Shah M, Williams AC. Idiopathic thrombocytopenic purpura and autoimmune thyroiditis in a patient with myasthenia gravis. *Muscle Nerve* 1992;15:966-967.
  27. Brand CA, Littlejohn GO. Psoriatic arthritis and myasthenia gravis. *J Rheumatol* 1984;11:244.