

Key Articles and Recommended Literature

Willison, H.J. and Yuki, N.

Peripheral Neuropathies and anti-glycolipid antibodies.

Brain 125, 2591-2625 (2002).

Anti-Ganglioside autoantibodies: an excellent and comprehensive review describing the progress of anti-glycolipid antibodies from the original discovery in immunoglobulin M paraproteinemic neuropathy through to current discoveries mapping the relationship to subtypes of Guillain-Barré Syndrome (GBS). Nomenclature of Gangliosides is being described as much as assays with which to detect anti-Ganglioside autoantibodies. Pathological aspects are given and mechanism of actions are described as far as understood today.

Steck, A.J., Stalder, A.K. and Renaud, S.

Anti-Myelin-associated glycoprotein neuropathy.

Curr Opin Neurol 19(5), 458-63 (2006).

Anti-MAG autoantibodies: This review focusses on recent progress in understanding the mechanisms of the (MAG-) autoantibody mediated, demyelinating neuropathy. A proper distinction between MAG-Neuropathies and a chronic, demyelinating Neuropathy (CIDP, chronic inflammatory demyelinating polyneuropathy) is important first of all due to the different therapies.

Therapies with anti-MAG-Neuropathies are directed to a reduction of antibody concentrations, blocking the effector mechanisms and depleting the monoclonal B-cell clones.

EFNS / PNS PDN guidelines.

Joint task force* of European Federation of Neurological Societies / Peripheral Nerve Society: Guideline on management of paraproteinemic demyelinating neuropathies.

Journal of the Peripheral Nervous System 11, 9-19 (2006).

Anti-MAG/-SGPG and anti-Ganglioside autoantibodies: The aim of this guideline is to give evidence-based and consensus guidelines on the clinical management incl the laboratory work-up of patients with both, a demyelinating neuropathy and a paraprotein.

(i) In patients with IgM PDN anti-MAG or -SGPG antibodies must be considered probable if the ELISA gives positive results at high titer. (ii) In patients with IgM PDN without anti-MAG antibodies testing for IgM antibodies against other neural antigens such as GQ1b, GM1, GD1a, GD1b, SGPG may be considered. (iii) In suspected CANOMAD, testing for anti-Ganglioside antibodies should be considered (ELISA may be adequate).

Quarles, R.A. and Weiss, M.D.

Autoantibodies associated with peripheral Neuropathy.

Muscle & Nerve 22, 800-22 (1999).

Anti-MAG/-SGPG and anti-Ganglioside autoantibodies: High titers of serum antibodies to neural antigens occur in several forms of neuropathy. The review gives an extensive overview of structure and function of neural antigens, on immune mediated neuropathies and methods for detecting and quantifying antibodies to these and its clinical correlations.

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Clinical Evaluation of Peripheral Neuropathies

- 1 Willison, H.J. and Winer, J.B. Clinical Evaluation and Investigation of Neuropathy. *J Neurol Neurosurg Psychiatry* 74(Suppl II), ii3-ii8 (2003).
- 2 Hughes, R.A.C. Peripheral Neuropathy (Clinical review), *BMJ*, 324, 466-69 (2002).
- 3 Nobile-Orazio, E. Neuropathies associated with anti-MAG antibodies and IgM monoclonal gammopathies. In: Latov N., Wokke, J.H.J., Kelly, J.J. Eds: Immunological and infectious diseases of the peripheral nerves. Cambridge University Press, 168-89 (1998).

Autoantibodies in the Clinical Work-up of Neuropathies

- 4 Czaplinski, A. and Steck, A.J. Antibody testing in peripheral neuropathies. A critical approach. *Schweizer Archiv für Neurologie und Psychiatrie*, 153(7), 301-7 (2002).
- 5 Willison, H.J. Anti-glycolipid anti-bodies in the diagnosis of auto-immune neuropathies. *Rev Neurol (Paris)*, 158(12), 6S16-6S20, (2002).
- 6 Antoine, J.C. Contribution des auto-anticorps au diagnostic d'une neuropathie périphérique. *Rev Med Liège*, 59(supp 1), 133-140 (2004). [article in french]
- 7 Wolfe, G.I. and Nations, S.P. Guide to autoantibody testing in peripheral neuropathies. *The Neurologist*, 7, 195-207, (2001).
- 8 Caudie, C. et al. Antiganglioside antibody profiles in 249 cases of Guillain-Barré syndrome. *Annales de Biologie Clinique*, 60 (5), 589-97, (2002). [article in french]

Specificity of Anti-Glycolipid Antibodies

- 9 Baumann, N. Specificity of Anti-glycolipid antibodies. *Clin Rev In Allergy and Immunology*, 19, 31-40, (2000).
- 10 Koga, M. et al. Ambiguous value of Haemophilus influenzae isolation in Guillain-Barré and Fisher syndromes. *J Neurol Neurochurg Psychiatry*, 71, 123-24, (2005).
- 11 McCombe, P.A. et al. Results of testing for anti-GM1 antibodies. *J Clin Neuroscience*, 7(3), 209-12, (2000).

GBS: Pathogenesis

- 12 Van Sorge, N.M. et al. Pathogenicity of anti-Ganglioside antibodies in the Guillain-Barré Syndrome. *Autoimmunity Reviews* 3, 61-8 (2004).
- 13 Tsang, R.S.W. and Valdivieso-Garcia, A. Pathogenesis of Guillain-Barré syndrome. *Expert Rev Anti Infect Ther* 1(4), 597-608 (2003).

GBS: Clinical Aspects

- 14 Overell, J. and Willison, H. Guillain-Barré Syndrome: Clinical Spectrum and Therapeutic Possibilities. *Advances in Clinical Neuroscience & Rehabilitation (ACNR)* 6(4), 10-11 (2006).
- 15 Van der Meché, F.G.A. et al. Diagnostic and Classification Criteria for the Guillain-Barré Syndrome. *Eur Neurol* 45, 133-9 (2001).
- 16 Koga, M. et al. Comprehensive Analysis of Bacterial Risk Factors for the Development of Guillain-Barré Syndrome after Campylobacter jejuni Enteritis. *J of Infectious Diseases*, 193, 547-55 (2006).
- 17 Winer, J.B. Guillain-Barré syndrome. *J Clin Pathol Mol Pathol*, 54, 381-85 (2001).

Paraproteinemic Neuropathies: Clinical Aspects

- 18 Quarles, R.H. Myelin-associated glycoprotein (MAG): past, present and beyond. *J of Neurochemistry*, 100, 1431-48 (2007).
- 19 Steck, A.J. et al. Paraproteinemic neuropathies. *Brain Pathol* 9, 361-8 (1999).
- 20 Steck, A.J. et al. Anti-myelin-associated glycoprotein neuropathy. *Curr Opin Neurol* 19, 458-63 (2006).
- 21 Nobile-Orazio, E. IgM para-proteinemic neuropathies. *Curr Opin Neurol*, 17, 599-605 (2004).

Paraproteinemic Neuropathies: Treatment

- 22 Renaud, S. et al. High-dose Rituximab and anti-MAG-associated polyneuropathy. *Neurology*, 66, 742-44, (2006).
- 23 Renaud, S. et al. Rituximab in the treatment polyneuropathy associated with anti-MAG antibodies. *Muscle & Nerve*, 27(5), 611-15 (2003).
- 24 Kornberg, A.J. and Pestronk, A. Antibody-associated polyneuropathy syndromes: principles and treatment. *Semin Neurol* 23(2), 181-90, (2003).

Anti-MAG Testing

- 25 Jaskowski, T.D. et al. Further comparisons of assays for detecting MAG IgM autoantibodies. *J Immunol J of Neuroimmunol* (2007).



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