MAYO CLINIC LABORATORIES

TEST CHANGE

Notification Date: January 10, 2024
Effective Date: February 20, 2024

Motor Neuropathy Panel

Test ID: FMNPP

Explanation:

Per notification from ARUP Laboratories, the following changes will be effective February 20, 2024.

Current Methods
Semi-Quantitative Enzyme-Linked Immunosorbent Assay Quantitative Immunoturbidimetry Quantitative Capillary Electrophoresis Qualitative Immunofixation Electrophoresis **Quantitative Spectrophotometry** Colorimetric Assay

New Methods
Semi-Quantitative Enzyme-Linked Immunosorbent Assay Quantitative Immunoturbidimetry Quantitative Capillary Electrophoresis Qualitative Immunofixation Electrophoresis Colorimetric Assay

Current Reference Value
Asialo-GM1 Antibodies, IgG/IgM: 29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive GM1 Antibodies, IgG/IgM: 29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive GD1a Antibodies, IgG/IgM: 29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive GD1b Antibodies, IgG/IgM: 29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive

New Reference Value
Myelin Associated Glycoprotein **(MAG)** Antibody, IgM: **0-999** Less than 1000 TU An elevated IgM antibody concentration greater than 999 TU against myelin-associated glycoprotein (MAG) suggests active demyelination in peripheral neuropathy. A normal concentration (less than 999 TU) generally rules out an anti-MAG antibody-associated peripheral neuropathy. TU= Titer Units Sulfate-3-Glucuronyl Paragloboside **(SGPG)** Antibody, IgM: **0.00-0.99** Less than 1.00 IV The majority of sulfate-3-glucuronyl paragloboside (SGPG) IgM-positive sera will show reactivity against MAG. Patients who are SGPG IgM positive

101 IV or greater: Strong Positive

GQ1b Antibodies, IgG/IgM:
29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

Ganglioside (Asialo-GM1, GM1, GM2, GD1a, GD1b, and GQ1b) Antibodies, IgG/IgM:

Ganglioside antibodies are associated with diverse peripheral neuropathies. Elevated antibody levels to ganglioside-monosialic acid (GM1), and the neutral glycolipid, asialo GM1 are associated with motor or sensorimotor neuropathies, particularly multifocal motor neuropathy. Anti-GM1 may occur as IgM (polyclonal or monoclonal) or IgG antibodies. These antibodies may also be found in patients with diverse connective tissue diseases as well as normal individuals. GD1a antibodies are associated with different variants of Guillain-Barre syndrome (GBS) particularly acute motor axonal neuropathy while GD1b antibodies are predominantly found in sensory ataxic neuropathy syndrome. Anti-GQ1b antibodies are seen in more than 80 percent of patients with Miller-Fisher syndrome and may be elevated in GBS patients with ophthalmoplegia. The role of isolated anti-GM2 antibodies is unknown. These tests by themselves are not diagnostic and should be used in conjunction with other clinical parameters to confirm disease.

Total Protein, Serum:
6.3-8.2 g/dL

Albumin:
3.75-5.01 g/dL

Alpha 1 Globulin:
0.19-0.46 g/dL

Alpha 2 Globulin:
0.48-1.05 g/dL
Beta Globulin:
0.48-1.10 g/dL

Gamma:
0.62-1.51 g/dL

Immunoglobulin A:
0 - 2 years: 2 - 126 mg/dL
3 - 4 years: 14 - 212 mg/dL
5 - 9 years: 52 - 226 mg/dL
10 - 14 years: 42 - 345 mg/dL
15 - 18 years: 60 - 349 mg/dL
19 years and older: 68 - 408 mg/dL

and MAG IgM negative may have multi-focal motor neuropathy with conduction block.

Asialo-GM1 Antibodies, IgG/IgM: **0-50 IV**
29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

GM1 Antibodies, IgG/IgM: **0-50 IV**
29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

GD1a Antibodies, IgG/IgM: **0-50 IV**
29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

GD1b Antibodies, IgG/IgM: **0-50 IV**
29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

GQ1b Antibodies, IgG/IgM: **0-50 IV**
29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

Ganglioside (Asialo-GM1, GM1, GM2, GD1a, GD1b, and GQ1b) Antibodies, IgG/IgM:

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Immunoglobulin G:
0 - 2 years: 242 - 1108 mg/dL
3 - 4 years: 485 - 1160 mg/dL
5 - 9 years: 514 - 1672 mg/dL
10 - 14 years: 581 - 1652 mg/dL
15 - 18 years: 479 - 1433 mg/dL
19 years and older: 768 - 1632 mg/dL

Immunoglobulin M:
0 - 2 years: 21 - 215 mg/dL
3 - 4 years: 26 - 155 mg/dL
5 - 9 years: 26 - 188 mg/dL
10 - 14 years: 47 - 252 mg/dL
15 - 18 years: 26 - 232 mg/dL
19 years and older: 35-263 mg/dL

Monoclonal Protein:
Units: g/dL

Myelin Associated Glycoprotein (MAG) Antibody, IgM: Less than 1000 TU

An elevated IgM antibody concentration greater than 999 TU against myelin-associated glycoprotein (MAG) suggests active demyelination in peripheral neuropathy. A normal concentration (less than 999 TU) generally rules out an anti-MAG antibody-associated peripheral neuropathy.

TU= Titer Units

Sulfate-3-Glucuronyl Paragloboside (SGPG) Antibody, IgM:

Less than 1.00 IV

The majority of sulfate-3-glucuronyl paragloboside (SGPG) IgM-positive sera will show reactivity against MAG. Patients who are SGPG IgM positive and MAG IgM negative may have multi-focal motor neuropathy with conduction block.

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Immunoglobulin A:
0 - 2 years: 2 - 126 mg/dL
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5 - 9 years: 52 - 226 mg/dL
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15 - 18 years: 26 - 232 mg/dL
19 years and older: 35-263 mg/dL

Total Protein, Serum:
Refer to report. Reference intervals may vary based on instrumentation.

Albumin:
3.75-5.01 g/dL

Alpha 1 Globulin:
0.19-0.46 g/dL

Alpha 2 Globulin:
0.48-1.05 g/dL

Beta Globulin:
0.48-1.10 g/dL

Gamma:
0.62-1.51 g/dL

Monoclonal Protein:
<= 0.00 g/dL

Questions:

Contact MCL Referrals Supervisor Amy Bluhm at 800-533-1710.