



Sample Report

Novalabs  
1050 Las Tables Rd.  
Templeton , CA , 93465  
Phone #: (877)230-1518

Lab Director: Mohamed Molani M.D.  
CLIA ID: 05D2120905

PHYSICIAN INFORMATION

Ordering:

Referring:

PATIENT INFORMATION

|               |           |           |              |            |
|---------------|-----------|-----------|--------------|------------|
| Name:         | Accession | N19-01780 | Collected    | 11/27/2019 |
| DOB:          | Sex:      | Male      | Received     | 11/29/2019 |
| Soc. Sec. No: |           |           | Report Date: | 12/16/2019 |

**RESULTS:**

Impressions:

Both left and right upper extremities are decreased, consistent with moderate, length dependent small fiber neuropathy in the left and moderate length-dependent small fiber neuropathy in the right. Nerve thickness and nerve fiber segmentation were observed in the stained tissue.

Nerve biopsy is generally accepted as useful in the evaluation of certain neuropathies as in patients with suspected amyloid neuropathy, mononeuropathy multiplex due to vasculitis, or with atypical forms of chronic inflammatory demyelinating polyneuropathy (CIDP). If vascular issues are suspected, the American Heart Association, American Diabetes Association and the Mayo Clinic have published recommendations of monitoring blood pressure symptoms. Ankle brachial measurements with pulse volume recordings can be utilized to monitor vascularity that may be associated with affecting peripheral nerve degeneration.

We suggest the following blood test for further evaluation: CBC with differential/platelet; comp. metabolic panel; hemoglobin A1c; sedimentation Rate- Westergren; lipid panel; ANA; vitamin D, 25 – hydroxyl; serum and urine immunofixation tests; serological test for HIV and hep C; thyroid stimulating immunoglob; T4 and TSh; vitamin B12; methylmalonic acid serum, serum electrophoresis. Small fiber neuropathies that are non-length dependent may be more commonly associated with abnormal glucose metabolism or autoimmune disorder (Gorson et al., J Neurol Neurosurg Psychiatry 2008; 79: 163-169). Specimen processing for epidermal nerve fiber density assessment were performed as per recent consensus guidelines (Lauria et al., Journal of the Peripheral Nervous System 2010; 15:79-92). Normal values for biopsies from distal leg (calf) are adjusted for age and gender as per Lauria et al. (JPNS 2010; 15:202-207). Age and gender adjusted normative values have not been determined for other sites. Small fiber neuropathies that are not length dependent may be more commonly associated with abnormal glucose metabolism or autoimmune disorders (Gorson et al., J Neurol Neurosurg Psychiatry 2008; 79:163-169).

Each biopsy specimen also underwent routine hematoxylin & eosin (H&E) evaluation for microscopic evidence of vasculitis, and Congo Red staining for detection of any amyloid deposition. Service Provider: This test performance determined by Nova Laboratory as required by the CLIA'88 regulations. It has not been cleared or approved by the US FDA. The FDA has determined that this is not necessary as the test is used for clinical purposes and not for investigation or research. The lab is certified by CLIA and qualified to perform high complexity testing. All tissue samples were processed and interpreted by this lab.

PGP:

Epidermal Nerve Fiber Analysis:

Left Proximal Arm: Normal nerve fiber density. No evidence of small fiber neuropathy.

Left Distal Arm: Abnormally low nerve fiber density. Consistent with small fiber neuropathy.

Right Proximal Arm: Normal nerve fiber density. No evidence of small fiber neuropathy.



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Right Distal Arm: Abnormally low nerve fiber density. Consistent with small fiber neuropathy.

H & E:

On Frozen Sections

Left Proximal Arm: No skin histopathological abnormalities shown.

Left Distal Arm: No skin histopathological abnormalities shown.

Right Proximal Arm: No skin histopathological abnormalities shown.

Right Distal Arm: No skin histopathological abnormalities shown.

CPT Code: (88305) X4, (88356) X4, (88314) X4, (88342) X4

Congo Red:

On Frozen Sections

Left Proximal Arm: Congo Red stain shows no abnormalities. No features of Amyloidosis.

Left Distal Arm: Congo Red stain shows no abnormalities. No features of Amyloidosis.

Right Proximal Arm: Congo Red stain shows no abnormalities. No features of Amyloidosis.

Right Distal Arm: Congo Red stain shows no abnormalities. No features of Amyloidosis.

Microscopic Findings

\*:

Microscopic Findings Nerve Fiber Density (f/mm) Normal Value (f/mm)
Left Proximal Arm 14.0 > 8.0

Nerve fiber density is normal.

Nerve fiber morphology is normal.

H&E and Congo Red stained sections show no abnormalities.

Microscopic Findings Nerve Fiber Density (f/mm) Normal Value (f/mm)
Left Distal Arm 4.2 >6.0

Nerve fiber density is decreased.

Nerve fiber morphology is abnormal - focal axonal bulbing.

H&E and Congo Red stained sections show no abnormalities.

Microscopic Findings Nerve Fiber Density (f/mm) Normal Value (f/mm)
Right Proximal Arm 12.2 >8.0

Nerve fiber density is normal.

Nerve fiber morphology is normal.

H&E and Congo Red stained sections show no abnormalities.

Microscopic Findings Nerve Fiber Density (f/mm) Normal Value (f/mm)
Right Distal Arm 3.2 >6.0



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Nerve fiber density is decreased.  
Nerve fiber morphology is abnormal - focal axonal bulbing.  
H&E and Congo Red stained sections show no abnormalities.

Normative Values have been adjusted for age and gender.

**GROSS:**

\*:

Left Proximal Arm biopsy of tan skin measuring 3mm X 3mm X 3mm was received. The surface of the skin is grossly unremarkable. Entirely submitted for frozen sectioning.  
Left Distal Arm biopsy of tan skin measuring 3mm X 3mm X 3mm was received. The surface of the skin is grossly unremarkable. Entirely submitted for frozen sectioning.  
Right Proximal Arm biopsy of tan skin measuring 3mm X 3mm X 4mm was received. The surface of the skin is grossly unremarkable. Entirely submitted for frozen sectioning.  
Right Distal Arm biopsy of tan skin measuring 3mm X 3mm X 3mm was received. The surface of the skin is grossly unremarkable. Entirely submitted for frozen sectioning.

Anwar Molani  
Electronically signed (12/16/2019)