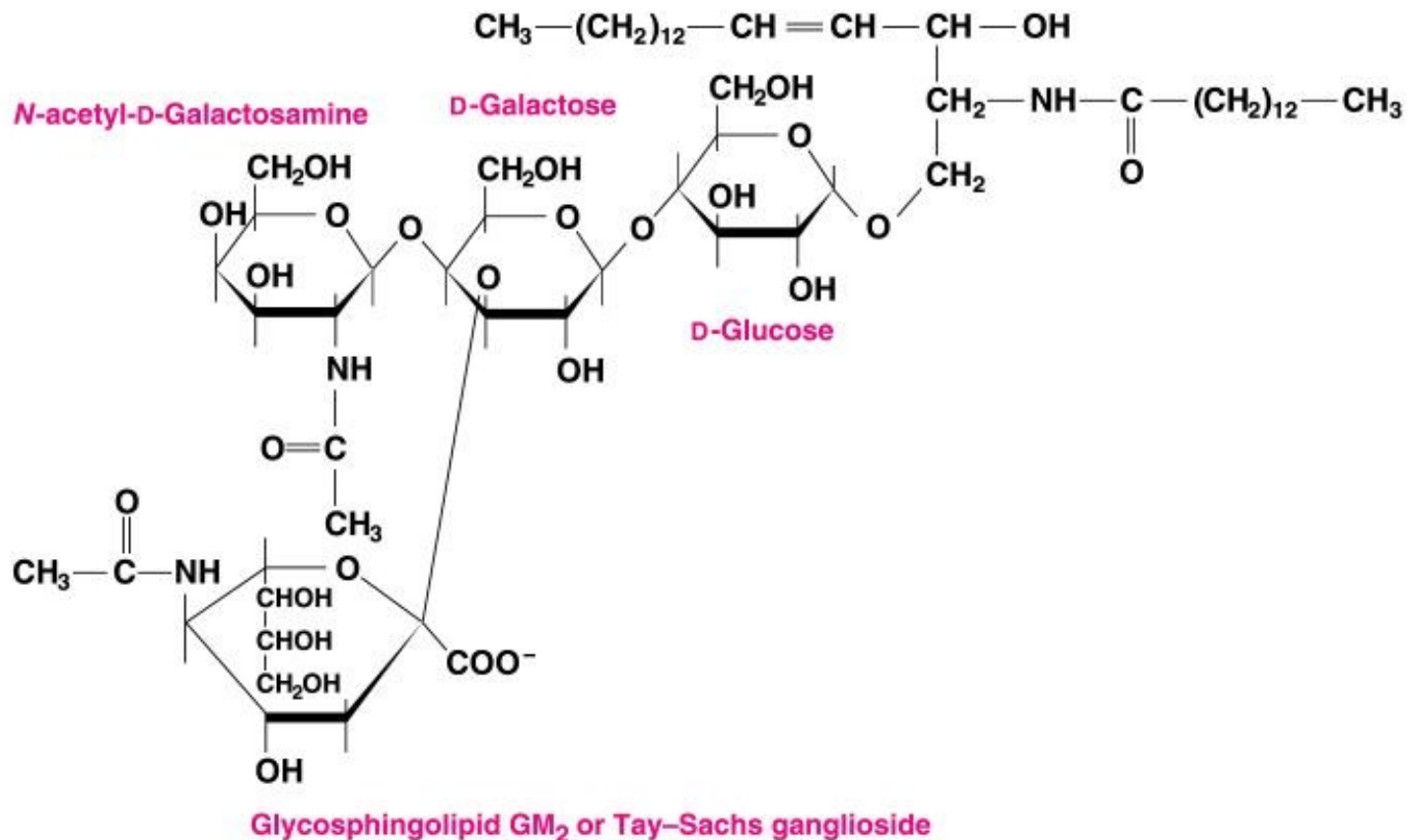


# GANGLIOSIDE ANTIBODIES

- (GANGLIO-COMBI, WITH IgM/IgG – MIX ENZYME LABEL ANTI-GANGLIOSIDE ANTIBODIES)

# Glycosphingolipids (Gangliosides)

- **Gangliosides** have two or more monosaccharides, usually glucose and galactose
  - they are abundant in the cell membranes of neurons
  - they act at the cell surface as receptors for hormones
- Accumulation of the ganglioside GM<sub>2</sub> causes Tay-Sachs



- **Anti-ganglioside antibodies** that react to self-gangliosides are associated with diverse autoimmune neuropathies.
- **These antibodies show highest association with certain forms of Guillain-Barré syndrome.**

# GBS

- Eponym that encompasses acute immune-mediated polyneuropathies
- Peripheral nerve myelin is target of an immune attack
- Starts at level of nerve root=conduction blocks & muscle weakness
- Eventually get widespread patchy demyel= increased paralysis

# Pathophysiology

- Usually postinfectious
- Immune-mediated: infectious agents thought to induce Ab production against specific gangliosides/glycolipids
- Lymphocytic infiltration of spinal roots/peripheral nerves & then macrophage-mediated, multifocal stripping of myelin
- Result: defects in the propagation of electrical nerve impulses, with eventual conduction block and flaccid paralysis

# Clinical Features:

- Progressive, fairly symmetric muscle weakness
  - typically starts in proximal legs
  - 10% will 1<sup>st</sup> develop weakness in face or arms
  - severe resp muscle weakness in 10-30% pts
  - oropharyngeal weakness in ~ 50%

- This assay detects both IgM & IgG antibodies in human serum against combination of six antigens including GM1, GM2, GA1, GD1a, GD1b & GQ1b.

GM1	GBS, chronic demyelinating neuropathy
GD1a	GBS, multifocal motor neuropathy
GD1b	GBS
GA1	GBS
GM2	chronic demyelinating neuropathy
GQ1b	Miller-Fisher syndrome



# INTERPRETATION CATEGORIES ARE PROVIDED AS A PERCENTAGE OF RATIO BETWEEN SAMPLE AND CALIBRATOR

- NEGATIVE :  $< 30\%$
- GREY ZONE :  $30 - 50\%$
- POSITIVE :  $50 - 100\%$
- STRONG POSITIVE :  $> 100\%$

- These tests by themselves are not diagnostic and should be used in conjunction with other clinical parameters to confirm disease.

- METHOD : ELISA
- CHARGES : Rs. 2400
- SCHEDULE : TUESDAY
- REPORTING : NEXT DAY
- SAMPLE REQUIREMENT : SERUM