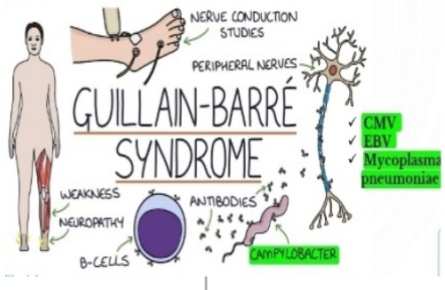
Disease	Feature	Cause	Sign & Symptoms	Histology & Microscopically	Other
Guillain-Barré Syndrome 	• Demyelinating neuropathies • Polyneuropathies • Acute Inflammatory	• **Postinfectious ,immune-mediated** disease. • Cellular and humoral immune mechanisms • Autoimmune response : Infection with → Campylobacter jejuni ,CMV , Epstein-Barr virus & , Mycoplasma pneumoniae • Acute ,influenza-like illness from which the affected individual has recovered by the time the **neuropathy** becomes symptomatic	• Presents 2 - 4 weeks following a relatively benign respiratory or gastrointestinal illnes • finger dysesthesias and proximal muscle weakness of the lower extremities. • The weakness may progress over hours to days to involve the arms, truncal muscles, cranial nerves, and muscles of respiration • Weakness **beginning** in the distal limb→ rapidly **advances to** proximal muscle function"→ ascending paralysis("motor) • CSF protein levels are elevated↑↑ • Altered permeability of the microcirculation within the spinal roots.	1. Segmental demyelination 2. inflammation of peripheral nerves , (perivenular and endoneurial mononuclear cell infiltrates rich in **macrophages** & **lymphocytes**) 	• Acute Inflammatory • Rapidly progressive • most common life-threatening diseases of PNS, may lead to death from failure of respiratory muscles in days. • Patients who survive the initial acute phase of the disease usually recover with time • Treatments 1. Plasmapheresis 2. intravenous immunoglobulin 3. supportive care
Chronic Inflammatory Demyelinating Poly (radiculo) neuropathy (CIDP)	• Demyelinating neuropathies • Polyneuropathies • Chronic inflammatory	• Acquired • Immune mediated	• Symmetrical mixed **sensorimotor** polyneuropathy that persists for 2 months or more. • Abnormalities include weakness ,difficulty in walking ,numbness, and pain or tingling sensations.	1. Segmental demyelination & remyelination. 2. Repeated activation and proliferation of Schwann cells result in concentric arrangement of multiple Schwann cells around individual axons to produce multilayered structures → onion bulbs.	• Most common • Chronic acquired Inflammatory • Follows a chronic relapsing-remitting, or progressive course . • Treatments 1. Plasmapheresis 2. IVIg treatment. 3. physical and occupational therapy with orthotic devices
Diabetic Peripheral Neuropathy	• Demyelinating neuropathies • Axonal neuropathies • Polyneuropathies • Distal symmetric sensorimotor polyneuropathy	• Nutritional & metabolic • Hyperglycemia→ accumulation of **advanced glycosylation end products(AGEs)**, increased levels of reactive oxygen species, microvascular injuries & ,changes in axonal metabolism→ axonal & myelin injuries	• **Sensory** axons are more severely affected than motor axons • paresthesias & numbness. • Forms: 1. **Autonomic neuropathy** is involve the cardiovascular , gastrointestinal, and genitourinary systems 2. **Sensory neuropathy :** numbness ,tingling in **stocking-and-glove** distribution 3. **Sensorimotor neuropathy :** impaired fine hand coordination, e.g difficulty with tasks such as opening jars or turning keys		• Most common • Treatments : glycemic control.

Disease	Feature	Sign & Symptoms	Histology & Microscopically	Other
Schwannomas	• **Benign** • **Encapsulated** • **Occur in soft tissues ,internal organs, or spinal nerve roots.** • **Well circumscribed nerve sheath tumor arising from differentiated Schwann cells.**	• Most commonly **affected cranial nerve** is the **vestibular portion of the eighth nerve**, symptoms related to nerve root compression, which includes hearing loss here.	• ***Grossly :*** 1. Circumscribed masses 2. Solitary 3. Completely encapsulated • ***Histology :*** • Spindle cell proliferation, arranged in hypo/hypercellular pattern.	• Most are sporadic • More common in 30 – 60 years of age • May occur spontaneously or associated with familial Neurofibromatosis type 2 (NF2) • Pain and neurological symptoms are **uncommon** unless the tumor is large • Treatment: Surgical excision • Local recurrence is **uncommon** • Most cases have an indolent course→ **good prognosis**
Neurofibromas	• **Benign** • **Not Encapsulated** • Presence of a neuronal component comprising transformed **Schwann cells** and a nonneoplastic fibrous component that includes **fibroblasts**	• **Localized** neurofibromas are superficial and evenly disturbed over the body surface • **Diffuse** neurofibromas are usually in the head and neck region • Presented as Painless, slowly growing, solitary, skin colored, soft mass.	• Proliferation of all elements of peripheral nerves including **schwann cells** with **wire-like collagen fibrils** and **fibroblasts**	• Malignant Peripheral Nerve Sheath Tumors can arise from them (50%NF1) • Treatment : 1. Superficial neurofibromas → marginal excision 2. deep-seated neurofibromas → treated conservatively