The Interface Between Psychiatry and Neurology

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Ten Areas of Interface between Psychiatry and Neurology

- Level of Consciousness
- Pain
- Autoimmune encephalitis
- Movement Disorders
- Functional Disorders
- Epilepsy
- Cancer Neurology
- Sensory Complaints
- Cognitive Disorders
- Multiple Sclerosis
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CONSCIOUSNESS DEFINED

“Consciousness is a being such that in its being its being is constantly in question insofar as this being is a being other than itself“
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Jean Paul Sartre
Being and Nothingness
1956
Levels of Consciousness
(Analogy to sleep)

- Awake and alert
- Awake but confused or delirious (inattentive)
- Drowsy (wakes with verbal stimulus)
- Stuporous (wakes with noxious stimulus)
- Minimally conscious (demonstrably conscious needing special tests)
- Unresponsive wakefulness (formerly vegetative or apallic state)
- Comatose (unresponsive asleep)
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Nociception, Pain and Suffering

- Nociception is the capacity to identify a noxious (potentially tissue damaging) stimulus, such as a sharp object, heat or cold
  - A capacity seen in simple organisms, even those without a brain
  - Mediated by dorsal root ganglion cell, its processes and its analogues
- Pain: Discomfort caused by injury
  - Probably requires a brain
  - Mediated by the specific nuclei of the thalamus
- Suffering: The experiencing of undergoing pain, hardship or distress
  - Pain is only one state that may cause suffering
  - Requires a cerebral cortex
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**Autoimmune Encephalitis**

- **Malignant** – paraneoplastic
  - Intracellular antigens (eg Hu, Ri, etc named after index patients)
  - Usually appear before cancer is discovered
  - Clinical syndrome examples: amnesia (Ophelia); cerebellar degeneration; peripheral neuropathy, etc)

- **Benign**
  - Intracellular antigens
  - Cell surface antigens
    - Anti-NMDA disease – ovarian teratoma; resembles schizophrenia
    - Anti voltage gated potassium channel
      - LGI1 disease (facio-brachial seizures)
      - CASPR 2 disease (Morvan)
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Movement Disorders

• Too little movement
  – Rigidity (stiffness)
    • Spasticity
    • Lead pipe
    • Paratonia
  – Bradykinesia/Akinesia (the tendency not to move)
• Too much movement
  – Tremor
  – Fibrillation
  – Fasciculation/Cramp
  – Myoclonus/Focal Seizures/Restless legs
  – Asterixis
  – Chorea/Ballism
  – Dystonia/Athetosis
  – Tic/Habit (semi-voluntary)/OCD - +agency
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Functional Disorders

- Naming is problematical: hysteria carries a negative connotation; for many psychogenic has the same problem
- Strictly speaking functional simply means non-structural
- Pithiatism (Babinski): caused by suggestion and cured by persuasion
- Free Will: the freely made decision to have a thought or initiate a movement
- Agency: the sense that a person herself is responsible for the thought or movement that has just occurred.
- Disorders: alien limb; anosognosia; anisodiaphoria; non-structure hemiplegia, blindness, deafness, etc.
- Common in times of societal change, such as:
  - Industrial revolution
  - War
  - Famine
  - Pandemic
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Epilepsy and Seizures

- Seizure: pathological synchronous cortical activity
- Epilepsy: State of recurrent unprovoked seizures
- Is there a characteristic “interictal personality”?
- Current classification
  - Generalized
  - Focal
    - With alteration of level of consciousness
    - Without alteration of level of consciousness
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Cancer Neurology

• Primary Brain and Spinal Cord Tumors
  – Infiltrative (eg gliomas; lymphomas)
  – Altered personality
• Metastatic Cancers
  – Focal and multifocal including meninges
  – Melanoma, lung, breast, renal, etc: may be treatable locally (eg RT; surgery) or systemically (checkpoint inhibitors; chemotherapy)
• Paraneoplastic Disorders (immune mediated; often precede primary)
• Metabolic Encephalopathies (drugs, electrolytes, ammonia)
• Complication of therapy (Bone marrow transplantation, immunosuppression, immune enhancement)
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Sensory Complaints

- Numbness and Tingling
- Itching
- Pain
- Dizziness
- Headache
- Back Pain
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Cognitive Disorders

• Memory complaints
• Brain fog
• Altered personality
• Disinhibition
• Volatility
• Episodic confusion
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Multiple Sclerosis and Related Disorders

- Typical MS
  - Relapsing-Remitting
  - Secondary Progressive
  - Primary Progressive
- Neuromyelitis Optica (Devic) – anti-aquaporin 4 disease
- Myelin oligodendrocyte glycoprotein (anti-MOG) disease
- Acute Disseminated Encephalomyelitis (ADEM)
- Tumor-like Demyelination (Marburg Disease)
- Balo Concentric Sclerosis
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