



Bridging Neurology and Psychiatry

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Case 1


- A recently married woman presented to medicine emergency with altered level of consciousness.
- Response to pain - Present
- Eyes were tightly shut and resisted opening with upward rolling of eyeballs.
- A full workup was done and no abnormalities were found.
- Patient was observed. Her condition improved in course of time.

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- When further questioned, she reports being beaten by her husband that morning. She also had repeated history of suicidal attempt.
 - She was discharged later with the diagnosis of **Conversion Disorder** and sent for psychiatric consultation.



Case 2


- A 53-year-old man with at least a 2-year history of progressive deterioration in his functioning with **personality change** and **increasing levels of apathy** and **decline in self-care** with resultant high levels of **self-neglect**.
- He wasn't depressed, and his mood was on the whole very flat with no spontaneity or interest in interactions with other people or his environment.
- On assessment, he was oriented in time or place.

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- His CT scan done over 6 months ago showed dramatic and very **severe atrophy** which was limited mainly to the *frontal* and a lesser extent *temporal* lobe.
 - His presentation was that of a behavioral variant type of **FRONTOTEMPORAL DEMENTIA**.



Case 3


- A 30 year old man presents with a 6 month history of recurrent episodes altered behaviour.
- During these episodes, he develops a motionless stare with associated lip smacking, grimacing, chewing movements, scratching or gesturing.
- His partner describes him as having labile emotions, he may get sudden outbursts of aggression or agitation.

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- His wife had noted a significant deterioration in his memory over the last 2 years, whereby he was forgetting appointments and having difficulty in managing his medications and finances.
 - There is no evidence of psychiatric illness.
 - The MRI scan of the brain was normal, but the EEG revealed frequent spikes originating in the right temporal lobe.
 - Diagnosis – **Temporal Lobe Epilepsy**



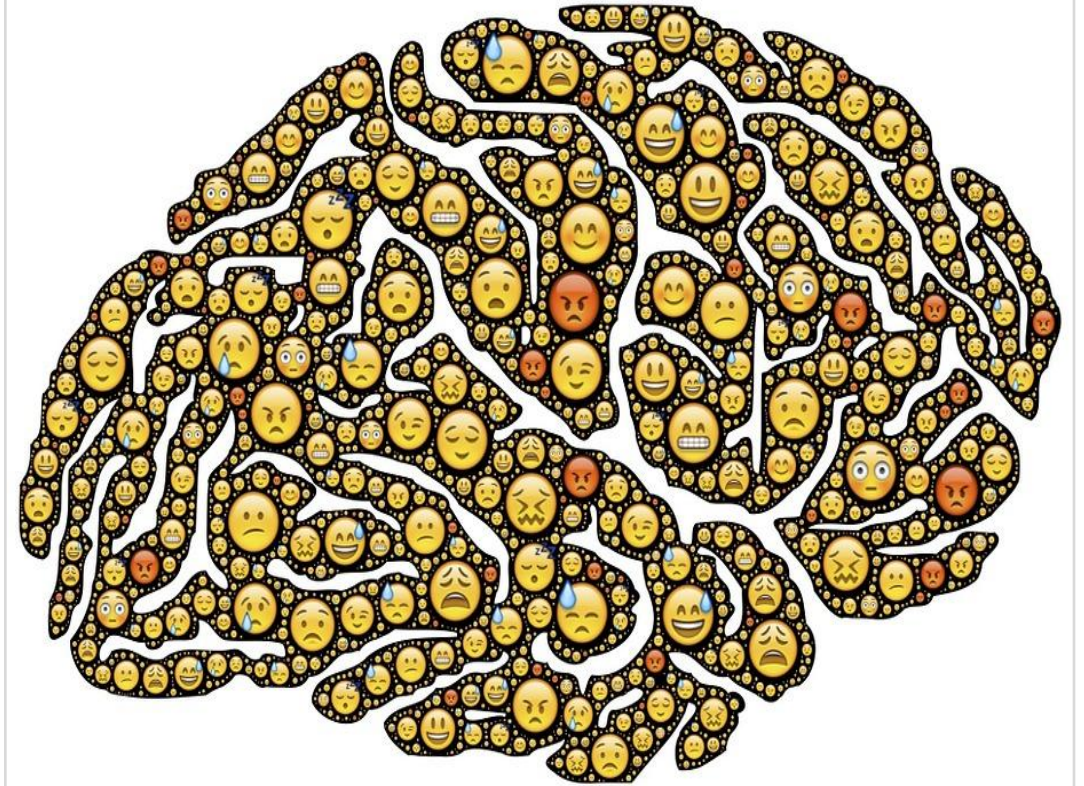
Case 4

- A 74-year-old male with a 7-year history of idiopathic Parkinson's disease presented with visual hallucinations and memory difficulties.
- One year ago, he started experiencing a “feeling of presence” of someone out of the corner of his eye.
- This sensation was fleeting and occurred once or twice per week. However, over recent months he was having more well-formed visual hallucinations, occurring on an almost daily basis.

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- He denied any olfactory or auditory hallucinations or delusions and had no other psychiatric symptoms.
 - Patient was diagnosed as a case of **Parkinson's disease** with dementia. Hallucination responded well with Rivastigmine.

Brain and Mind

- Our mental life has its roots in the brain.
- Neurology has focused objectively on organic nervous system pathology, especially of the brain,
- whereas psychiatry have laid claim to illnesses of the mind.





Psychiatry and neurology—the interface

- Psychiatric consequences of neurological disorders
 - Organic psychiatric disorders with established brain pathology
 - Psychological reaction to neurological disease
- Neurological presentation of psychiatric disorders
 - Somatoform or associative disorders
 - Factitious disorder
- Psychological factors affecting physical condition
 - Chronic pain, neuro-disability
- Psychiatric and neurological conditions occurring together by chance



NEUROLOGICAL CONDITIONS PRESENTING WITH PSYCHIATRIC AND BEHAVIOUR PROBLEMS

- The primary CNS disorders associated with the 5 major psychiatric symptoms.
 - Depression
 - Anxiety
 - Psychosis
 - Mania
 - Aggression



Primary CNS Disorders	Dep	Anx	Psy	Man	Agg
Dementia/retardation	+	+	+		+
Alzheimer disease	+	+	+		+
Huntington's chorea	+	+	+		+
Other dementias	+	+	+	+	+
Mental retardation	+	+	+	+	+
Epilepsy (especially temporal lobe)	+	+	+	+	+
Extrapyramidal disorder					
Calcifications of basal ganglia	+				



	Dep	Anx	Psy	Man	Agg
Parkinson's disease	+	+	+		+
Progressive supranuclear palsy	+				
Wilson's disease		+	+		+
Frontal lobe syndrome					
infection					
Aids	+		+		+
Neurosyphilis	+		+		+
Encephalitis meningitis		+	+	+	
Migraine		+			
Multiple sclerosis	+	+	+	+	+



	Dep	Anx	Psy	Man	Agg
Pseudo bulbar palsy	+				
Strokes	+	+	+	+	+
Traumatic brain injury	+		+	+	+
Tumours					
CNS Tumours		+	+		
Temporal lobe tumours	+	+	+	+	

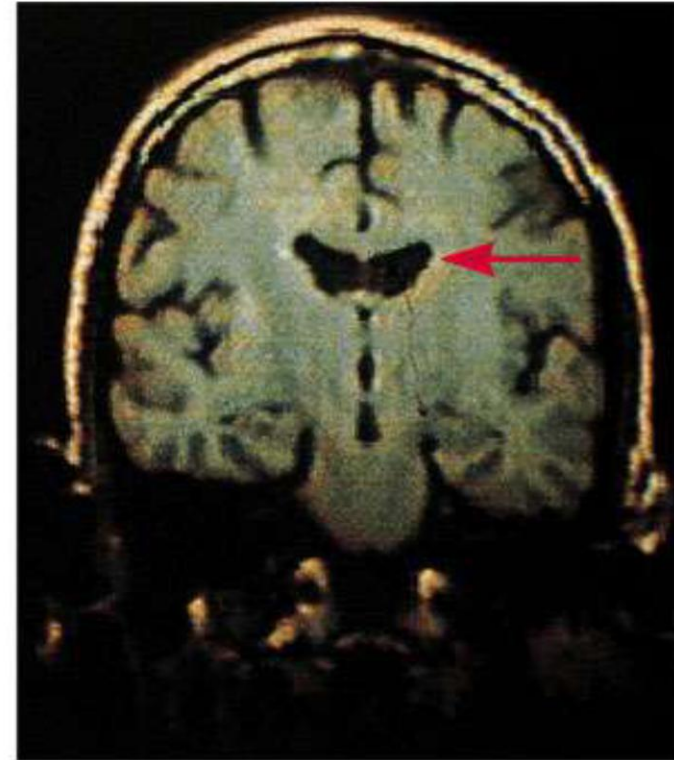
CNS Disorder	Depression (all types)	Cognitive Deficits	Dementia	Psychosis
Alcohol	15%	80%	15%	5%
Epilepsy	20%	Unknown	rare	5%
Alzheimer's disease	30%	100%	100%	30%
Head Injury	35%	3%	Unknown	3%
HIV dementia	25%	40%	25%	6%
Huntington's Disease	25%	40%	Unknown	8%
Multiple Sclerosis	50%	50%	5%	10%
Parkinson's Disease	50%	80%	30%	20%
Stroke	50%	50%	20%	5%
Subarachnoid Haemorrhage	20%	30%	Unknown	Unknown
Normal Control	10%	5%	2%	1%

Brain Morphology & Schizophrenia

Some schizophrenia patients exhibit morphological changes in the brain like enlargement of fluid-filled ventricles.



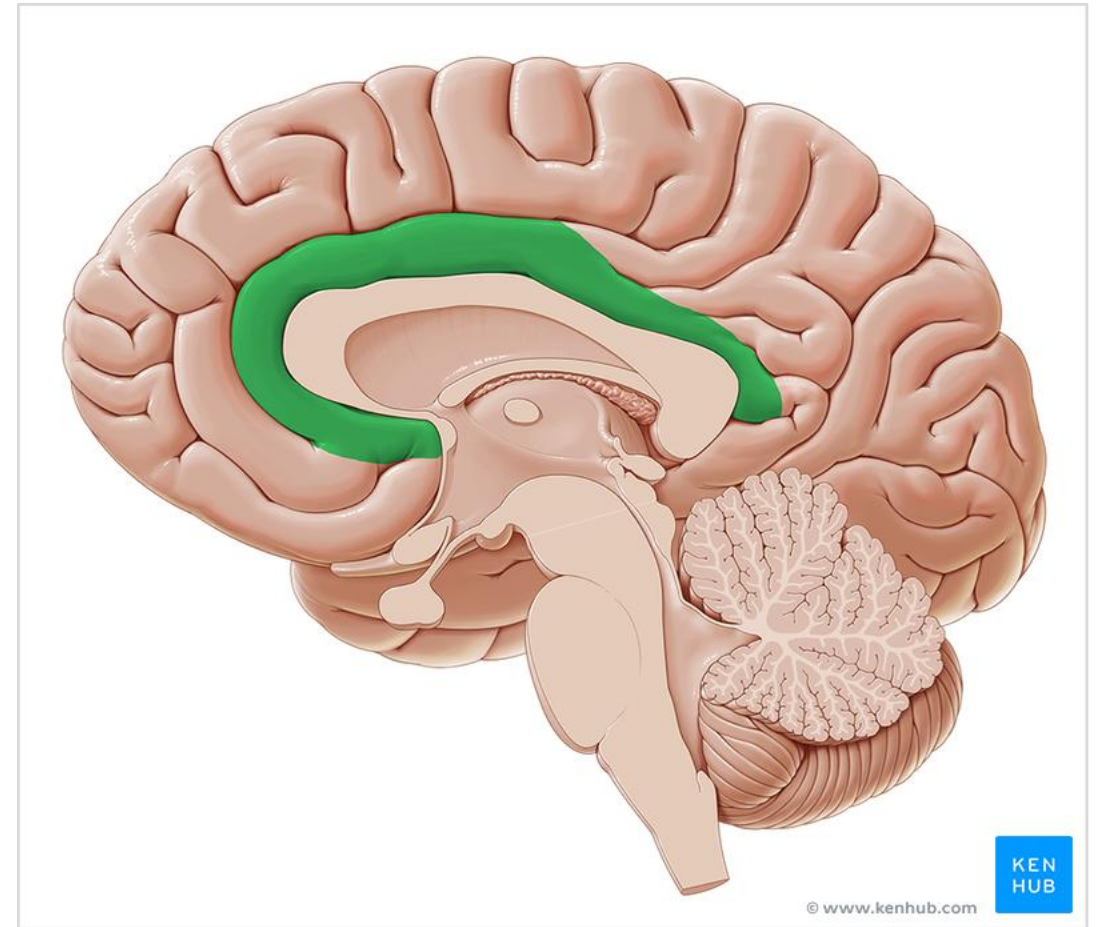
No schizophrenia



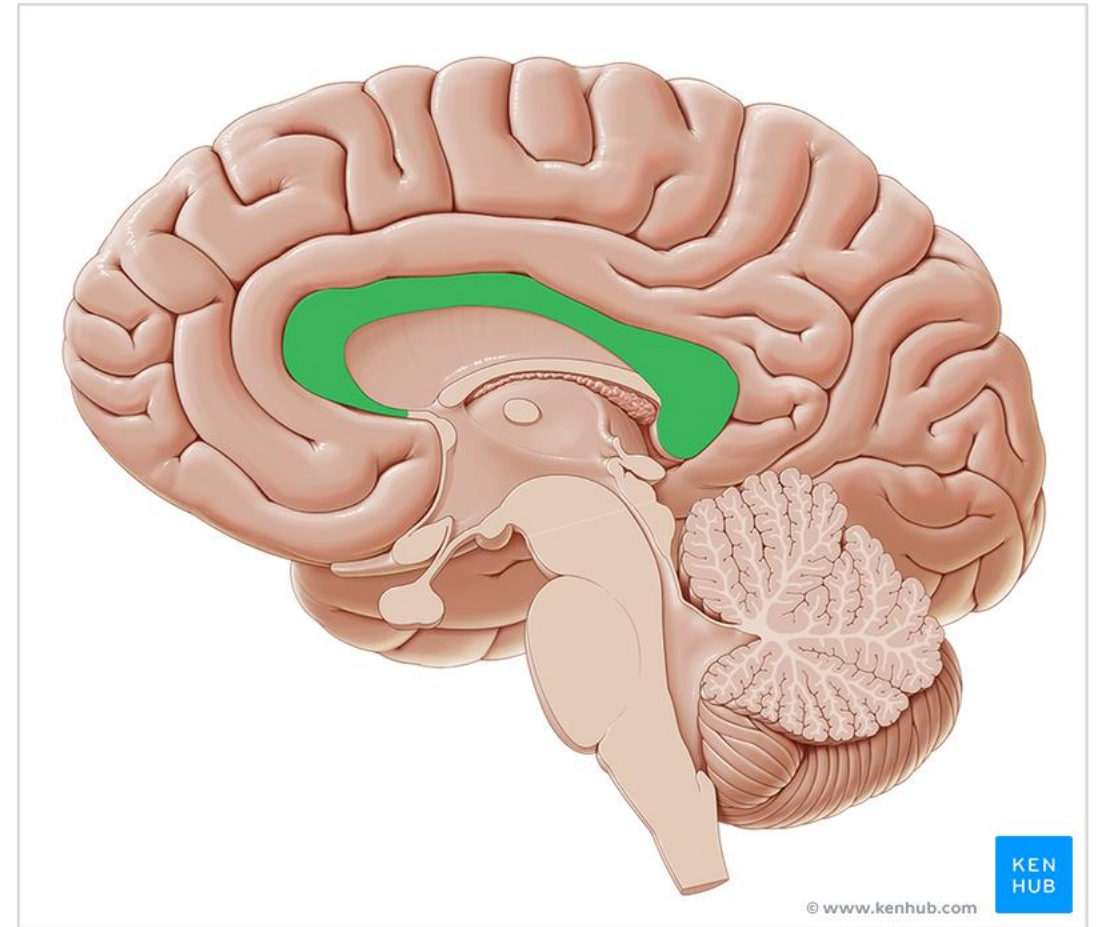
Schizophrenia

Both Photos: Courtesy of Daniel R. Weinberger, M.D., NIH-NIMH/ NSC

- Interference with the output of cingulate gyrus (cingulotomy), appears to be beneficial in a disorder of excessive attention, namely obsessive-compulsive disorder (OCD).
- Lesions of the right hemisphere are associated with impairments in processing emotion in speech, a defect known as aprosodia.



- Behavioural disturbances frequently accompany lesions of the rostral brainstem.
- Corpus callosum lesions (classically, the 'butterfly glioma') produce a picture of severe and rapid intellectual deterioration

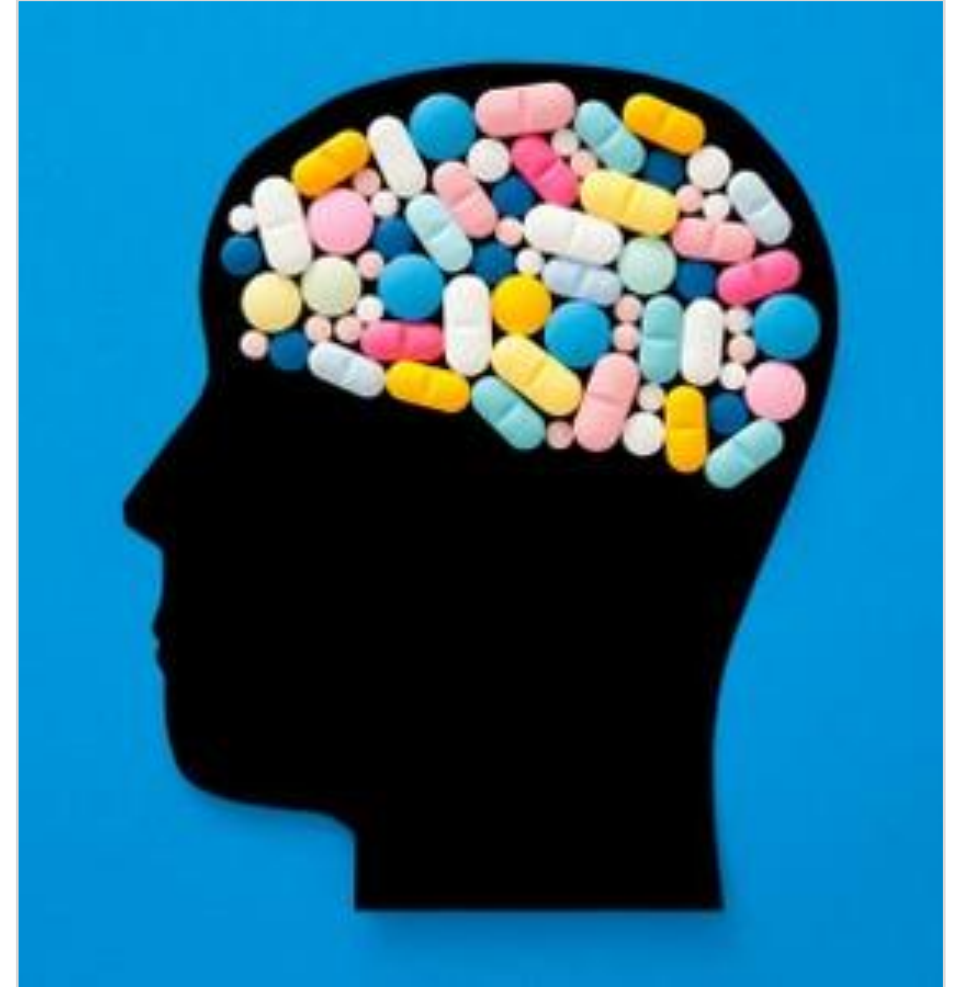


Neuropsychopharmacology

- Medications aimed at **Receptors** and **Neurotransmitters** play the pivotal role in both psychiatric and neurological diseases.



- With the advent of medications that
 - selectively treat psychiatric illness,
 - With neurological side effects, primarily in the form of movement disorders,have brought neurology and psychiatry into cross-consultation relationships.



Breaking the wall

- Recent advancement of neuroscience makes it untenable to draw demarcating line between psychiatry and neurology.
- Neuropsychiatry, an umbrella term for approach to better understanding the complex brain disorders, is flourishing rapidly.



Benefits of the Bridge

- Comprehensive neurological and psychological care of patients
- Reduced morbidity and fewer unnecessary investigations
- Fewer unnecessary admissions and shorter stays
- Decreased psychological distress
- Better quality of life for patients and carers
- Improved patient, carer, and staff satisfaction





Thank You!