PSYCHIATRY

STANDARD TREATMENT PROTOCOL

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INTRODUCTION

Diagnosis based on history & sign symptoms.
Normalcy abnormality continuum.
Distress & interference of interpersonal functions.
Organic vs functional.
System of classification, ICD-10, DSM-IV.
Classification-phenomenological (descriptive psychopathology).
For convenience still used

Functional and organic dichotomy is no longer valid

Organic – where a causal role can be established between a systemic disorder and the presenting psychiatric complaints
Main neuropsychiatric disorders

1. Major depressive disorder.
2. Schizophrenia.
3. Bipolar disorder.
4. Anxiety disorders.
5. Epilepsy.
6. Substance use disorder.
7. Dementia & delirium.
10. Childhood disorders - Autism, ADHD, Mental retardation etc.
Depression
What is depression

✓ Serious persistent low mood state caused by number of factors.
✓ Interfere with functions socio/academic/occupation/personal.
✓ It can be chronic or intermittent.
✓ Risk of suicide.
Bereavement

Normal reaction to life events
(e.g. death of loved one)
Mood described as “blue”
Few symptoms
Short duration
Little, impairment in functioning

Major depression:

• Low feeling state
• Mood described as “black”
• Many symptoms
• Longer duration (weeks /months)
  Significant impairment in functioning (can be debilitating)
## Depression-contd.

### Emotional
- Sadness
- Loss of interest or pleasure
- Overwhelmed
- Anxiety
- Diminished ability to concentrate, indecisiveness
- Excessive or inappropriate guilt

### Physical Symptoms
- Vague aches and pains
- Headache
- Sleep disturbances
- Fatigue
- Back pain
- Significant change in appetite resulting in weight loss or gain
Depression-comorbidities & risks.

- General medical conditions: hypothyroid, SLE, neurological diseases, HIV, CA pancreas.
- Depression & somatization.
- Depression & old age-aches & pains, memory probs, sleep disturbance.
- Depressions & suicide (15%).
<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender-</td>
<td>2 times more common in women (Hormonal/Pregnancy/Roles)</td>
</tr>
<tr>
<td>Age-</td>
<td>Peak onset 20-40 yrs</td>
</tr>
<tr>
<td>Family History -</td>
<td>1.5 to 3.0 times more risk</td>
</tr>
<tr>
<td>Negative life events-</td>
<td>Possible connections</td>
</tr>
<tr>
<td>Marital status-</td>
<td>More common in married women Less common in men More common in widowed/Divorced</td>
</tr>
</tbody>
</table>
The Monoamine theory of depression

Some Neurotransmitters are called as Monoamines

- Norepinephrine (NE)
- Serotonin (5HT)
- Dopamine (DA)

Depression is caused due to reduced levels or defective function of all three Neurotransmitters.
To treat depression you need to increase the NTs and decrease the receptors.
Effects of Neurotransmitters on the Behavior

Nor-epinephrine
- Energy
- Interest
- Motivation
- Drive
- Pleasure

Serotonin
- Anxiety
- Irritability
- Pain threshold
- Mood
- Emotion
- Cognition
- Sex
- Appetite
- Aggression

Dopamine
- Impulse
- Pleasure
- Emotion
- Cognition

Effects of Neurotransmitters on the Behavior
Types of therapies

- Pharmacotherapy.
- Psychosocial therapy.
- Electroconvulsive therapy.
- Onset of drug action-after 3-6 weeks.
- Duration of R, 6-12 months(single episode).
- R, resistant - 2 drug failure.
## DRUGS & DOSAGES (mg/day)

<table>
<thead>
<tr>
<th>DRUGS</th>
<th>DOSAGES (mg/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>imipramine</td>
<td>150 - 300</td>
</tr>
<tr>
<td>amitriptyline</td>
<td>150 - 300</td>
</tr>
<tr>
<td>clomipramine</td>
<td>130 - 250</td>
</tr>
<tr>
<td>doxepin</td>
<td>150 - 300</td>
</tr>
<tr>
<td>dothiepin</td>
<td>75 - 300</td>
</tr>
<tr>
<td>DRUGS</td>
<td>DOSAGES (mg/day)</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Sertraline</td>
<td>50 - 200</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>20 - 40</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>50 – 200</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>20 – 50</td>
</tr>
<tr>
<td>Citalopram</td>
<td>20 – 40</td>
</tr>
<tr>
<td>Escitalpram</td>
<td>10 – 20</td>
</tr>
</tbody>
</table>
Depression & suicide.

Risk factors:-

- Prior attempts,
- Family history,
- Poor social support,
- Suicidal plan,
- Substance abuse.
Depression—when to refer?

- Suicidal patients
- Bipolar depression,
- Treatment resistant depression,
- Depression with psychotic features,
- Recurrent depressive disorder.
Multiple unexplained somatic Symptoms

- Pt demands remedy for many physical symptoms without medical explanation. They have frequent visits and all investigations are normal but they are not convinced about it. They are preoccupied with these symptoms & work with less efficiency

- **Treatment** - antidepressants, CBT
Acute Psychosis

- 10% of all psychosis belong to category
- An acute onset (normal to psychotic in 2 wks.).
- Presence of associated stress.
- A typical syndrome characterized by rapidly changing and variable clinical picture.
- Complete recovery within 2-3 months.
- Treatment: - Antipsychotic-(3-6) months.
SCHIZOPHRENIA

- Affects 1% population
- Begins < 25 yrs
- Persists throughout life
- Affects all S/E class
- Symptoms
  - Delusion
  - Hallucination
  - Disorganized speech
  - Disorganized behavior
  - Negative symptoms (Alogia, Avolition, Apathy)
Schizophrenia - symptoms

Positive Symptoms
- Hallucinations
- Delusions (bizarre, persecutory)
- Disorganized Thought
- Perception disturbances
- Inappropriate emotions

Negative Symptoms
- Blunted emotions
- Anhedonia
- Lack of feeling

Cognition
- New Learning
- Memory

Mood Symptoms
- Loss of motivation
- Social withdrawal
- Insight
- Demoralization
- Suicide
Prevalance

- General population: 1%
- Nontwin siblings: 8%
- Child with one parent: 12%
- Dizygotic twin: 19%
- Child with both parents: 40%
- Monozygotic twins: 47%
Therapy

- Typical Antipsychotics
  - Haloperidol
  - Flupenthixol
  - Chlorpromazine
  - Trifluoperazine

- Atypical Antipsychotics
  - Risperidone
  - Olanzapine
  - Quetiapine
  - Aripiprazole
  - Clozapine.
<table>
<thead>
<tr>
<th>Antipsychotic doses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpromazine (100-800) mg</td>
</tr>
<tr>
<td>Haloperidol (2-20) mg/day</td>
</tr>
<tr>
<td>Trifluoperazine (2-20) mg/day</td>
</tr>
<tr>
<td>Pimozide (2-6) mg/day</td>
</tr>
<tr>
<td>Fluphenazine decanoate (25-50) mg every 2-3</td>
</tr>
<tr>
<td>Haloperidol decanoate depo-25-50 mg IM every 4</td>
</tr>
<tr>
<td>Flupenthixol decanoate (25-50) mg every 2-3</td>
</tr>
<tr>
<td>Olanzapine (5-20) mg/OD</td>
</tr>
<tr>
<td>Quetiapine (150-800) mg/d/BD</td>
</tr>
<tr>
<td>Risperidone (2-16) mg/day</td>
</tr>
<tr>
<td>Ziprasidone (40-160) BD/day</td>
</tr>
<tr>
<td>Aripiprazole (10-30) mg/day</td>
</tr>
<tr>
<td>Clozapine (150-900) mg/day / BD. Start with 12.5 mg/BD</td>
</tr>
<tr>
<td>Amisulpride (400-1200) mg/day/BD</td>
</tr>
</tbody>
</table>
### Side effects of SGAs.

<table>
<thead>
<tr>
<th></th>
<th>Olanza</th>
<th>Quetia</th>
<th>Cloza</th>
<th>Risperi</th>
<th>Aripipra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agranulocyt</td>
<td>1 in 50000</td>
<td>1 in 50000</td>
<td>4 in 1000</td>
<td>1 in 50000</td>
<td>1 in 50000</td>
</tr>
<tr>
<td>Wt gain</td>
<td>12 lbs in 12 wks</td>
<td>6 lbs in 6 wks</td>
<td>12 lbs in 10 wks</td>
<td>4 lbs in 6 wks</td>
<td>NIL</td>
</tr>
<tr>
<td>Hyperglycae</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
<td>+</td>
<td>NIL</td>
</tr>
<tr>
<td>Hypertriglyc</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
<td>+</td>
<td>NIL</td>
</tr>
<tr>
<td>Prolactin rise</td>
<td>0-+</td>
<td>0-+</td>
<td>Transient</td>
<td>+++</td>
<td>0</td>
</tr>
</tbody>
</table>
Advantages of Atypical Antipsychotics
Bipolar disorder
BIPOLAR DISORDER- DEFINITION

- A chronic multidimensional condition
- An irregular course of acute episodes,
- Interepisode subsyndromal symptomatology
- Comorbid conditions.
- Emil Kraeplin, the father of modern mood disorder coined the term Manic Depressive Insanity & differentiated it from dementia & Schizophrenia on factors like early age of onset & course of illness.
- As per DSM-IV manic episode is the defining feature of BAD.
- Classic description:- Episodes of Mania +/- Depression with full interepisode recovery,
### Treatment of Bipolar Disorder

#### Mood stabilizers*
- Lithium
- Valproate
- Olanzapine

* FDA approved

#### Anticonvulsants
- Carbamazepine
- Lamotrigine
- Topiramate
- Gabapentin

#### Nonpharmacologic therapies
- CBT
- Other psychotherapies

#### Somatic therapies
- ECT
- Light therapy
- TMS; VNS (?)

#### Second generation antipsychotics
- Clozapine
- Risperidone
- Quetiapine
- Ziprasidone
- Aripiprazole
- Paliperidone
### Drugs

<table>
<thead>
<tr>
<th>ANTIMANIC DRUGS</th>
<th>BIPOLAR ANTIDEPRESSANT</th>
<th>PROPHYLACTIC AGENTS MOOD STABILISER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A) DOPAMINE BLOCKING AGENTS:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Risperidone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Olanzapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Ziprasidone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Aripiprazole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Haloperidol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) Quetiapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B) NON DOPAMINE BLOCKING AGENT:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) LiTium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Valproate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Carbamazepine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Lamotrigine
2) Fluoxetine + Olanzapine
3) Quetiapine

1) Olanzapine
2) Lamotrigine
3) Lithium
4) Valproate
Phobic Disorder

- Unreasonable strong fear of specific places, objects or events- cannot be alone in these situations & avoids them.
- Insects & animals, closed or open spaces, height, water, injection, crowds etc
- **Treat**- SSRIs, alprazolam, clonazepam
- Systemic desensitisation
Clinical Needs: Underdiagnosis of Bipolar Disorder

- BD is underdiagnosed
- Earlier lifetime prevalence estimates: ~1%
- Current estimates: 3-8% (~5%)
- Many diagnoses are missed or delayed
- Latency period for diagnosis: 1-15 years (~10 years)
- Treatment and prognostic implications
Hysterical conversion\Dissociative Disorder

Dramatic symptoms

Falling unconscious, involuntary movement of limbs, aphonia, paralysis, strange behavior, possession by God or spirit (Bhar) or amnesia without medical cause.

Treatment- Anxiolytics, Psychotherapy, EST-Aversion therapy.
Generalized Anxiety Disorder.

✔ Nervousness, tremor, headache, poor concentration, inability to learn, worry, sleep & appetite disturbance, sexual inadequacies or sudden unexplained attacks of anxiety

✔ Continuous free-floating anxiety not restricted to any particular situation or object. Non episodic as in Panic.

✔ Treatment - Benzodiazepines (Short course), SSRI amitriptylline, mirtazapine (NASSA), venlafaxine (SNRI).

✔ Relaxation Training
Warning signal from evolutionary perspective.

It is a drive-anxiety performance—an inverted U shaped curve but it becomes a problem when it is excess.

Anxiety symptoms:-

1) COGNITIVE:- apprehension, preoccupation with dreadful happening
2) Behavioral:- Irritability, restlessness, sleep disturb, difficulty to relax.
3) Autonomic:- Tremor, palpitation, excessive sweating, short of breath.

FEAR V/S ANXIETY:- Both alerting signal, warns of impending danger.

FEAR:- In response to a known external definite nonconflicting danger.

ANXIETY- In response to an unknown internal vague conflicting danger.
Panic disorder

- Episodic paroxysmal anxiety, recurrent, spontaneous, with autonomic symptoms.
- Not restricted to particular situation or object and unpredictable,
- Exclude: - PSVT, Hyperthyroidism, Complex partial sz, Pheochromocytoma.
- Treat: - BZD, SSRI, CBT.
SEXUAL DISORDERS

- Impotence, premature ejaculation, decreased sexual desire or satisfaction.
- Dhat syndrome- Attributes wet-dreams, masturbation or semen loss & pre or extramarital sex with known or unknown persons

Treatment: Psychotherapy, sildenafil, antidepressants, behavioral methods
Children or adolescents are brought with delays in growth and development, unable to learn and manage themselves in activities of daily life.

Treatment - Special Education and training
Childhood Psy Dis like Hyperkinetic dis, conduct dis & enuresis

- Cannot sit still, always moving, destructive, disobedient, Temper tantrums, running away from home, indulging in sexual activity, cannot learn in school, lying, stealing, fighting, cruelty, vandalism, bedwetting.

- **Treatment** - Methylphenidate, clonidine, atomoxetine
WHAT IS AUTISM?

- Autism impacts normal development of the brain in areas of social interaction and communication skills.

- Difficult to communicate with others and relate to the outside world.

- Occasionally, aggressive and/or self-injurious behavior may be present.
Recurrence (more than one) seizures.

Transient behavioral sign/sym due to abnormal & excess (paroxysmal disorderly synchronous) discharge of extensive group of neurons.

Convulsion: - Motor phenomena of seizure; invol muscle contraction either sustained (tonic) or interrupted (clonic).

Can be diagnosed clinically or EEG or both.
| Epilepsy: - | Convulsion |
| Seizure     | Nonconvulsive: - |
Why is it important to classify the type of seizure?

- cause
- prognosis
- treatment
Causes of Epilepsy

- Unknown: 65%
- Vascular: 10%
- Congenital: 8%
- Trauma: 6%
- Tumor: 4%
- Degenerative: 4%
- Infection: 3%
Types of epileptic seizure

1. Partial seizures
   a. Simple partial seizures (with motor, sensory, autonomic, or psychic signs)
   b. Complex partial seizures (LOC)
   c. Partial seizures with secondary generalization

2. Primarily generalized seizures
   a) Absence (petit mal)
   b) Tonic-clonic (grand mal)
   c) Tonic
   d) Atonic
   e) Myoclonic

3. Unclassified seizures
   a. Neonatal seizures
Classification of epilepsy syndromes

- Location related: focal/generalized.
  - A) Idiopathic
  - B) Symptomatic:
  - C) Cryptogenic: presumed.
Epilepsy-diagnosis.

- History/clinical exam/supportive investigations-EEG & neuroimaging.
- Normal EEG/CT:- Scan does not rule out.
- Aura-
  earliest part of the sz recog & remembered by the patient.
What can be done to increase the chances of finding an abnormality on the EEG.

- During wakefulness and sleep
  - After sleep deprivation
  - With 3 to 5 minutes of deep breathing = hyperventilation
  - With flashing lights
  - With special electrodes
  - For prolonged periods
  - VIDEO EEG & invasive eeg
  - But do not treat eeg (FORCED NORMALIZATION-sz control&nomalizd eeg appear to be associated with development of psychosis, which reveses when sz recurs. However opposite is also observed. Status unresolved.)
### Seizure/Pseudosz/NEAD

#### (A). CLINICAL:-

<table>
<thead>
<tr>
<th>Feature</th>
<th>Seizure</th>
<th>Pseudosz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seizure pattern</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Tongue biting</td>
<td>Yes</td>
<td>Rare (tip of tongue)</td>
</tr>
<tr>
<td>Duration</td>
<td>Short</td>
<td>Long</td>
</tr>
<tr>
<td>Postictal</td>
<td>Present</td>
<td>Absent</td>
</tr>
<tr>
<td>Injury</td>
<td>Yes, sometimes severe</td>
<td>Rare, less severe</td>
</tr>
<tr>
<td>Occurs in Sleep</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>precipitated by suggestion</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Seizure/pseudoseizure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Pattern.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Injury.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Tongue bite.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Postictal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Suggestion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Resistance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Sleep.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ eyeopening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ LAB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ EEG.(Ictal/postictal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ prolactin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### B). LABORATORY TESTS

- EEG during the attack
- EEG after the attack
- Serum prolactin levels (during generalize attacks)
- Abnormal seizure discharges
  - Slowing
  - Raised (Up to 30 mins post ictal)
  - Sample-1 with in 10 mins, sample-2 in 90-120 mins
  - An elevation 2.5 times over control
- No change
- No change
Epilepsy mimickers

- **Syncope**: occurs in erect posture, no convulsion, duration in seconds, postictal confusion or incontinence rare.

- **Episodic dyscontrol (rage attack)**: directed and premeditated aggression, longer duration, interictal behavior abnormal, incontinence rare.

- **Psychogenic seizures**: longer duration, partial factors, not occur in sleep, no incontinence/self-injury, attack lack stereotyped pattern, loc not always complete, amnesia variable.

- **TIA**: usually no loc, weakness paralysis more common, rare under 50, longer duration, associated with vascular pathology.
## Epilepsy mimickers

<table>
<thead>
<tr>
<th>TIA</th>
<th>Episodic dyscontrol(rage atck)</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ AGE&gt;50</td>
<td>➢ Longer duration</td>
</tr>
<tr>
<td>➢ Weakness/paralysis</td>
<td>➢ Directed aggression</td>
</tr>
<tr>
<td>➢ LOC-uncommon</td>
<td>➢ Interictal behavioral abnormality</td>
</tr>
<tr>
<td>➢ All neurologic sign symp resolve in 24 hours.</td>
<td>➢ Incontinence rare.</td>
</tr>
</tbody>
</table>

## Syncope

<table>
<thead>
<tr>
<th>➢ LOC in seconds</th>
<th>➢ LOC-minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Tonic clonic movements-&lt; 15 sec.</td>
<td>➢ Tonic clonic phase-(30-60sec).</td>
</tr>
<tr>
<td>➢ Erect posture</td>
<td>➢ Posture at onset-variable.</td>
</tr>
<tr>
<td>➢ Postictal disorientation&lt; 5 mins.</td>
<td>➢ Postictal-many minutes to hours.</td>
</tr>
<tr>
<td>➢ Incontinence sometime.</td>
<td>➢ Incontinence common.</td>
</tr>
</tbody>
</table>
LOC

TONICCLONIC

AMNESIA

postictal
Diagnostic procedure

- Biochemistry (esp. when metabolic cause is suspected).
- CSF (meningitis/encephalitis).
- EEG
- Computed Tomography (CT) (atrophy, scar tissue, abnormal blood vessels).
- Magnetic resonance imaging (MRI) (brain scar tissue, small brain tumors).
- Single – photon emission computed tomography (SPECT) (to check blood circulation in the brain).
- Positron emission tomography (PET) (to view metabolism of glucose or oxygen by the brain).
<table>
<thead>
<tr>
<th>Good outcome</th>
<th>Adverse outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Single seizure type</td>
<td>✔ Multiple seizure types</td>
</tr>
<tr>
<td>✔ No additional impairment</td>
<td>✔ Additional neurological impairment (especially in cognitive function)</td>
</tr>
<tr>
<td>✔ Late age of onset</td>
<td>✔ Early age of onset (for the syndrome)</td>
</tr>
<tr>
<td>✔ Episode is related to illness with full recovery or was provoked</td>
<td>✔ Spontaneous seizures</td>
</tr>
<tr>
<td>✔ Short seizures</td>
<td>✔ Status epilepticus</td>
</tr>
<tr>
<td>✔ Low rate of seizures (Good response to antiepileptic drugs)</td>
<td>✔ High rate of seizures (Poor response to antiepileptic drugs)</td>
</tr>
</tbody>
</table>
Prognosis

- Age of onset.
- Duration.
- Frequency.
- Associated features.
- Treatability.
When to treat?

- Start R, after 2 seizures.
- If 2 of the following factors present—R, after 1Sz. (risk increases 15%-100%)
  - Structural brain lesions,
  - Abnormal EEG,
  - Partial seizure type,
  - Family history
  - Post ictal motor paralysis.
- How long?
  - Stop R, when pt is sz free for more than 2yrs.
- Driving to resume 4 months after AED stoppage.
- Risk of recurrence: ->50% with risk factors like sympto aetio, abnor EEG, Neuro abnorm, severe epilepsy (->1drug to control)
## Salt & sugars

<table>
<thead>
<tr>
<th>Start treatment:-</th>
<th>After 2 seizures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treat after 1 seizure</td>
<td>✅ If 2 or more present</td>
</tr>
<tr>
<td></td>
<td>✅ Structural brain lesion,</td>
</tr>
<tr>
<td></td>
<td>✅ Abnormal EEG, Family h/o</td>
</tr>
<tr>
<td></td>
<td>✅ Partial SZ, postictal motor paralysis.</td>
</tr>
<tr>
<td></td>
<td>✅ If present is SZfree &gt;2year</td>
</tr>
<tr>
<td>How long to treat?</td>
<td>✅ Symptomatic aetiology</td>
</tr>
<tr>
<td>Risk of recurrence:-&gt;50%</td>
<td>✅ &gt;1 drug to control SZ.</td>
</tr>
</tbody>
</table>
Basic principles:- Monotherapy-one drug at a time.
Start low go slow, avoid abrupt change, gradually build up the dose.
Observe side effects, drug interact, vol of distribu.
When to consider drug change?
Trial of max tolerated dose for 3-6 months. determine effectivity of drug
Surgical evaluation / medical intractibility – seizures continued after three AEDs trial, alone or in combination
### Drugs

<table>
<thead>
<tr>
<th>First Generation</th>
<th>Second Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbamazepine</td>
<td>Gabapentin</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>Lamotrigine</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>Levetiracetam</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Oxcarbazepine</td>
</tr>
<tr>
<td>Valproic acid</td>
<td>Pregabalin</td>
</tr>
<tr>
<td></td>
<td>Tiagabine</td>
</tr>
<tr>
<td></td>
<td>Topiramate</td>
</tr>
<tr>
<td></td>
<td>Zonisamide</td>
</tr>
</tbody>
</table>
# Drug of choice

<table>
<thead>
<tr>
<th>SZ TYPES</th>
<th>FIRST CHOICE</th>
<th>OTHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFANTILE SPASMS</td>
<td>ACTH</td>
<td>TOP,ZON,VIG</td>
</tr>
<tr>
<td>ABSENCE</td>
<td>VAL</td>
<td>LAM,ZON</td>
</tr>
<tr>
<td>ATONIC</td>
<td>VAL</td>
<td>TOP,LAM,ZON,PHT,PHB</td>
</tr>
<tr>
<td>TONIC</td>
<td>VAL</td>
<td>TOP,LAM,ZON,PHT,PHB</td>
</tr>
<tr>
<td>MYO</td>
<td>VAL</td>
<td>TOP,LAM,ZON,PHT,PHB</td>
</tr>
<tr>
<td>TONIC-CLONIC</td>
<td>VAL</td>
<td>TOP,LAM,ZON,PHT,PHB CBZ</td>
</tr>
<tr>
<td>PARTIAL=/-SEC GENZ</td>
<td>CBZ</td>
<td>OXCBZ, TOP, LAM, VAL, PHT, LEV, GBP</td>
</tr>
</tbody>
</table>
## Major side effects

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHT</td>
<td>Aplastic anemia, hep. Failure, SJS</td>
</tr>
<tr>
<td>CBZ</td>
<td>Aplastic anemia, SJS</td>
</tr>
<tr>
<td>VAL</td>
<td>Hep failure, Pancreatitis, ↓platelets</td>
</tr>
<tr>
<td>TOP</td>
<td>Renal stone glaucoma,</td>
</tr>
<tr>
<td>LTG</td>
<td>Rash, SJS</td>
</tr>
<tr>
<td>OXCBZ</td>
<td>Rash, Hyponatraemia</td>
</tr>
<tr>
<td>ZON</td>
<td>Renal stone, aplastic anemia</td>
</tr>
<tr>
<td>LEV</td>
<td>Psychosis</td>
</tr>
<tr>
<td>VIG</td>
<td>Vision loss.</td>
</tr>
</tbody>
</table>
Seizure ppt./serum AED level/referral.

- Missed dose/Sleep deprivation/Fever.
- Substance abuse-alcohol/Drug interact.
- Need for serum AED level:-poor sz control/AED intoxication /pregnancy/ ? compliance/while starting 2\textsuperscript{nd} drug.

- Referral:-sz not controlled by monotherapy nature of sz uncertain/comorbidity/cog decline.
<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenytoin/fosphenytoin(IM)</td>
<td>3-5 mg/kg/day (300-400mg/d)</td>
</tr>
<tr>
<td>Phenobarbitone</td>
<td>2-5mg/kg/day (60-180mg/d-od)</td>
</tr>
<tr>
<td>Sodium valproate (load)</td>
<td>20-60mg/kg/d (750-2000mg/d)</td>
</tr>
<tr>
<td>Carbamazepine (never load)</td>
<td>15-35mg/kg/d (600-1800mg/d)</td>
</tr>
<tr>
<td>Lamotrigine</td>
<td>1-15mg/kg/d (150-500mg/d/bd)</td>
</tr>
<tr>
<td>Topiramate</td>
<td>1-3mg/kg/d (200-400mg/d-bd)</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>900-2400mg/d-td</td>
</tr>
<tr>
<td>Levetiracetam</td>
<td>1000-3000mg/d-bd</td>
</tr>
<tr>
<td>Zonisamide</td>
<td>200-400mg/d-od/bd</td>
</tr>
<tr>
<td>Oxcarbamazepine</td>
<td>900-2400mg/d (10-30mg/kg/d)</td>
</tr>
</tbody>
</table>
DONT WORRY I AM THERE NA

JHOOTA!

CHOTOO
<table>
<thead>
<tr>
<th>AED</th>
<th>Na+ Channel Blocker</th>
<th>GABA Modulation</th>
<th>Glutamate Antagonist</th>
<th>Ca Channel Blocker</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBZ</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHT</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHB</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAL</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>GBP</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTG</td>
<td>++</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>TIG</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOP</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>OXCBZ</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZON</td>
<td>++</td>
<td></td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>
Thank you
Headache

- Commonest ailment.
- Primary/Secondary (with underlying cause)

**Diagnosis:-**

History-tempo profile, **asso symp** (n&v, loc, alt sensorium/photo/phono/osmo phobia, sz, fever), aggra & reliev factors, R, Duration (if >1-2 yrs not serious cause).

- Severity- suffering & socio/occu impairment.
- Location/frequency
- Physical exam:- meningial signs, Kernig, fundoscopy.

**Inv:- When to image?---**

First or worst episode, localized always on same side/

**New onset** (after 40/ in malignancy/ HIV pt)/ cog decline /personality change/papilloedema/seizure.
## Common causes of headache

<table>
<thead>
<tr>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migraine-16% (with associated features)</td>
<td>Systemic infection-63%</td>
</tr>
<tr>
<td>Tension type-69% (featureless)</td>
<td>Head injury-4%</td>
</tr>
<tr>
<td>Cluster-0.1%</td>
<td>Vascular disorder-1%</td>
</tr>
<tr>
<td>Idiopathic stabbing-2%</td>
<td>Subarachnoid hagg-&lt;1%</td>
</tr>
<tr>
<td>Exertional-1%</td>
<td>Brain tumor-0.1%</td>
</tr>
</tbody>
</table>
Migraine

- Recurrent episodic headache (4-72hrs)
- Comorbidity:- epilepsy, depression, functional bowel disorder.
- Unilateral location, throbbing, mod to severe.
- + Aura +/- aura headache gap <60 mins.
- Treat:- gen/edu/reassure.

**Acute treatment:**

1) Tryptans - May be repeated after 2 hrs. (Suma-6mg s/c inj, & 50-100mg oral, Max-200mg/d, Nasal spray-20mg per dose-Max-40mg/d (Riza-10mg p/o, Max-30mg/d)

Contra-CAD, PVD, uncontrolled htn, age <18 or >65, along with ssri.

2) Ergot-tartarate-1-5mg p/o, or, DHE mesylate-1mg s/c, iv, nasal spray.. Max-3tab/day & 5 per week. Contra same as above.

3) NSAID - ASA, PCM, Diclofenac, Ketorolac + dichloralphenazone-100mg+Iso
Migraine-cont.

✓ Prophylaxis - Indication; - (At least for 6 months.)
  a) 2-4 attacks/month with disability lasting ≥ 3 days.
  b) contra/ineffective symptomatic medication
  c) use of >2 abortive medication per week,
  d) spl case - hemiplegic migraine, with neurodeficit,

Drug for prophylaxis: - B blocker/TCA/CCB(Flunaril)/
                  AED (Val, Topi, Gabapentine) . . Adequate trial for 3 months

Choice depend on comorbidity .
(Mig + Htn/Stress = B blocker) (Mig + Dep/insom = TCA)
Mig + Epilepsy/Mania = AED) (Mig + Angina = CCB.)
Classification of psychosis

Psychosis

Organic
- Delirium
- Dementia
- Psychosis with medical/surgical condition
- Substance abuse

Functional
- Schizophrenia
- Schizoaffective disorder
- Brief Psychotic disorder
- Delusional disorder
- Shared psychotic disorder
- Postpartum psychosis
- Affective disorder with psychotic features
ICD – 10

SCHIZOPHRENIA : SUBTYPES

F20.0 Paranoid Schizophrenia
F20.1 Hebephrenic Schizophrenia
F20.2 Catatonic Schizophrenia
F20.3 Undifferentiated Schizophrenia
F20.4 Post – schizophrenic depression
F20.5 Residual Schizophrenia
F20.6 Simple Schizophrenia
F20.8 Other Schizophrenia
F20.9 Schizophrenia, Unspecified
Impact of Schizophrenia Symptoms on Functional Outcomes

Positive Symptoms

Social/Occupational Dysfunction
  • work
  • interpersonal relationships
  • self-care

Negative Symptoms

Cognitive Symptoms

Mood Symptoms

Brief psychotic disorder

- One/more of following for 1 day-1 month
- Delusion/hallucn/disorg speech/disorg behaviour
- T/t Antipsychotics for 3-6 months
- Prognosis good
DELUSIONAL DISORDER

Nonbizarre delusion
> 1 month

Types
- Erotomanic
- Grandiose
- Jealous
- Guilt
- Persecutory
- Somatic
- Mixed

- Treatment
- Antipsychotics
- Psychotherapy
SCHIZOAFFECTIVE DISORDER

Manic/Depressive/Mixed concurrently with Schizophrenic symptoms
Delirium/hallucinations for 2 wks in absence of affective symptoms
More common in young female

- T/t for affective symptoms
- T/t for psychotic symptoms
- Mood stabilizer
- Psychotherapy
Postpartum psychosis

- Within four weeks of delivery

  - Depressive type
  - Schizophreniform type

- Fear of harming the child/self
- Infanticide common
- Long term Bipolar disorder & MDD
- T/t Antipsychotics/Antidepressants/Family therapy
Atypical antipsychotics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Weight Gain</th>
<th>Diabetes Risk</th>
<th>Dyslipidemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clozapine</td>
<td>+++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>+++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Risperidone</td>
<td>++</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>++</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Identification of Metabolic Syndrome Markers

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Defining Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triglyceride</td>
<td>≥ 150 mg/dL</td>
</tr>
<tr>
<td>HDL-cholesterol</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>&lt; 40 mg/dL</td>
</tr>
<tr>
<td>Women</td>
<td>&lt; 50 mg/dL</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>≥ 130 / ≥ 85 mm Hg</td>
</tr>
<tr>
<td>Fasting Blood Glucose</td>
<td>≥ 110 mg/dL</td>
</tr>
<tr>
<td>Waist Circumference</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>&gt;102 cm (&gt; 40 in)</td>
</tr>
<tr>
<td>Women</td>
<td>&gt; 88 cm (&gt; 35 in)</td>
</tr>
<tr>
<td>Substituted BMI (WHO)</td>
<td>&gt; 30 kg/m2</td>
</tr>
</tbody>
</table>

≥3 Risk Factors Required for Diagnosis

HDL = high-density lipoprotein.
<table>
<thead>
<tr>
<th>EPISODE TYPE</th>
<th>MOOD STATE</th>
<th>DURATION</th>
<th>ASSOCIATED FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANIA</td>
<td>HIGH HAPPY EUPHORIC</td>
<td>ATLEAST 1 WEEK WITH 3 OR MORE</td>
<td>1) INCREASED SELF ESTEEM / GRANDIOSITY</td>
</tr>
<tr>
<td></td>
<td>EXPANSIVE</td>
<td>SYMPTOMS-(ATLEAST 4 IF MOOD IS</td>
<td>2) SLEEP DECREASED</td>
</tr>
<tr>
<td></td>
<td>IRRITABLE</td>
<td>IRRITABLE) PRESENT TO A</td>
<td>3) OVER TALKATIVENESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SIGNIFICANT DEGREE.</td>
<td>4) RACING THOUGHT/FLIGHT OF IDEAS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5) DISTRACTIBILITY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6) INCREASED GOAL DIRECTED ACTIVITY/ PSYCHOMOTOR AGITATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7) RISK TAKING ACTIVITY</td>
</tr>
<tr>
<td>HYPOMANIA</td>
<td>DO</td>
<td>ATLEAST 4 DAYS WITH 3 OR MORE</td>
<td>DO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SYMPTOMS</td>
<td></td>
</tr>
<tr>
<td>EPISODE TYPE</td>
<td>MOOD STATE</td>
<td>DURATION</td>
<td>ASSOCIATED FEATURES</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| DEPRESSION   | LOW, SAD DISINTERESTED | ATLEAST 2 WEEKS WITH 5 OR MORE SYMPTOMS, MOST OF THE DAY, NEARLY EVERYDAY | 1) SLEEP DISTURBANCE  
2) DIMINISHED INTEREST  
3) GUILT / LOWSELFESTEEM.  
4) DECREASED ENERGY  
5) INABILITY TO CONCENTRATE / MAKE SIMPLE DECISIONS  
6) APPETITE DISTURBANCE  
7) PSYCHOMOTOR RETARDATION / AGITATION  
8) SUICIDAL IDEATION/ MORBID PREOCCUPATION |
| MIXED        | BOTH HIGH & LOW STATES | AT LEAST 1 WEEK WITH SYMPTOMS MOST OF THE DAY, NEARLY EVERYDAY | ASSOCIATED FEATURES PRESENT WHICH FULFIL BOTH MANIA & DEPRESSION |
# Subtype of Bipolar Disorder

<table>
<thead>
<tr>
<th>Bipolar Disorder</th>
<th>Mania</th>
<th>Hypomania</th>
<th>Major Depressive Episode (MDE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bipolar-I</td>
<td>Yes</td>
<td>Yes</td>
<td>Usually but not required for diagnosis</td>
</tr>
<tr>
<td>Bipolar-II</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cyclothymia</td>
<td>No</td>
<td>Yes</td>
<td>1-2 years without full MDE but frequent high &amp; unstable mood. 1 year for child/adolescent, 2 years for adult.</td>
</tr>
</tbody>
</table>
Case Vignette #3

- Mr PPD, 29 years, PhD student
- Pessimistic predisposition, sensitive to criticism, brooding nature, ‘what’s there in life anyway’
- In between, 2-3 days of ‘bouncing back’, takes on extra study projects (never finishes them), buys unnecessary things, wants to ‘live life kingsize’
- Returns back to baseline state quickly
- Never clinically depressed
- Never considers or considered to be ‘ill’
A. Long-term effective antimanic drugs

B. Long-term effective antidepressant drugs

C. Psychoeducation

THERAPY IN DIFFERENT PHASES

Acute Phase

Maintenance Phase
CAUSES OF ORGANIC DISORDER

- Degenerative
- SOL
- Trauma
- Infection
- Metabolic
- Vascular
- Toxic
- Endocrinopathies
- Anoxic
- Vitamin deficiency
ALCOHOL & DRUG DISORDERS

✔ Cannabis, opiates, pain killers, sedatives.
✔ Leads to harmful effects on family finance, health, occupation & social life

✔ Treatment - Alcohol - detox with chlordiazepoxide & maintain on acamprosate, disulfiram, topiramate etc

✔ Opiates - detox with dextropropoxipheine or ethyl morphine & maintain on naltrexone
Case Vignette-1

Madhavi returned to the city after her father’s funeral, she found that she had very little energy, and could not seem to get going. She was often tearful, even at work, could not eat, lost almost 6.5 K.G. in 6 months. She became irritable with her children, refused to have their friends in the house. She lost interest in social and leisure activity and spend hours doing nothing. She disclosed to her Psychiatrist that she wished to die.
Miss A.M., 32 years, teacher, was very excited & talkative. After an argument with her husband 4 days before, she angrily left her home and went to the mosque, where she stayed all night praying. On returning home, she was very agitated, could not sleep, talked almost incessantly, refused her food. Her endless conversation was mainly about religion.
A 23-year-old female patient reported, “I cry, tears roll down my cheeks and I look unhappy, but inside I have a cold anger because they are using me in this way, and it is not me who is unhappy, but they are projecting unhappiness onto my brain. They project upon me laughter, for no reason, and you have no idea how terrible it is to laugh and look happy and know it is not you, but their emotions.”