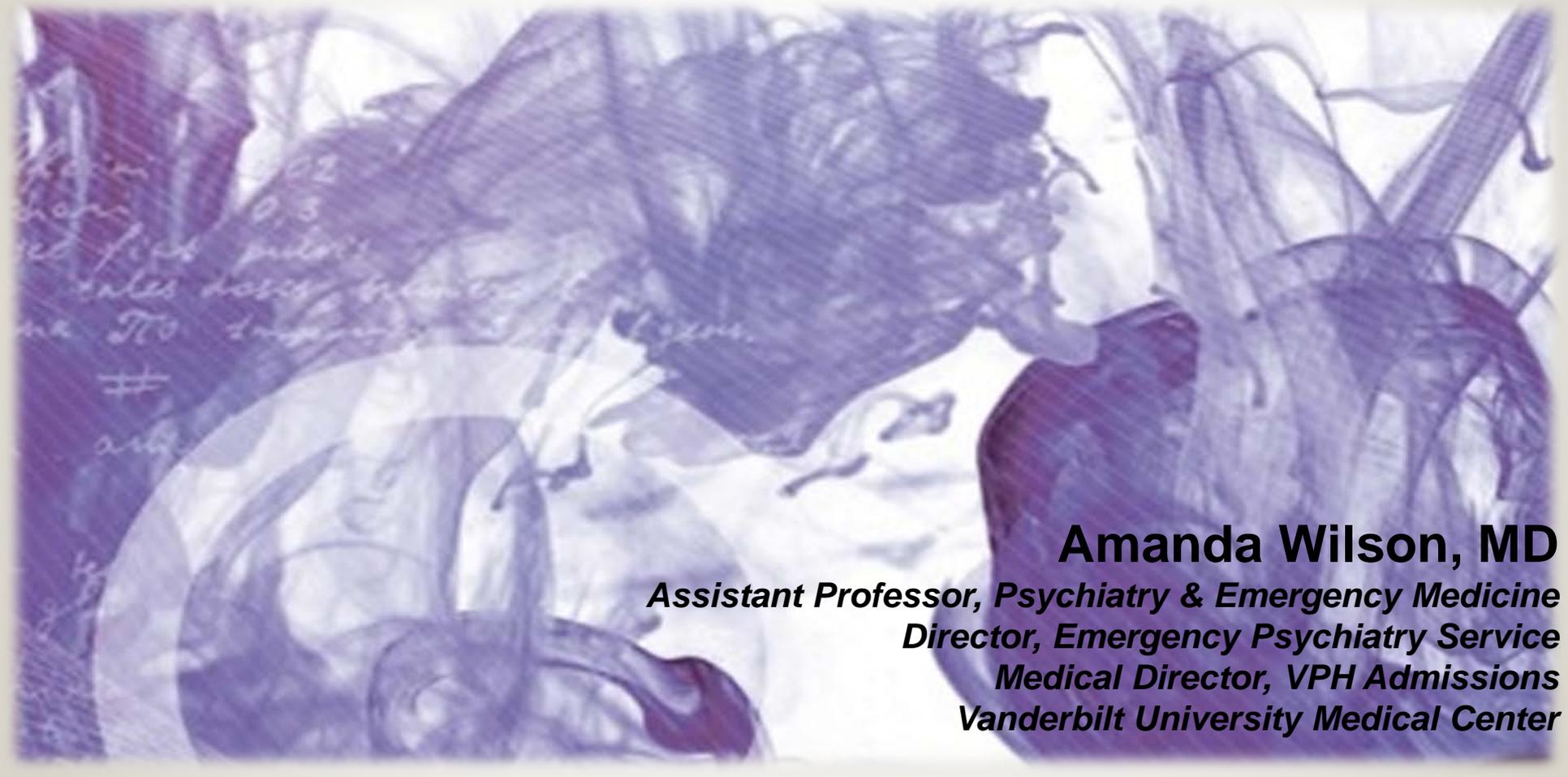




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POST-STROKE DEPRESSION

A purple-tinted background image showing a close-up of a person's face, possibly a woman, with her hands near her face. The image is semi-transparent and overlaid with faint, illegible text and symbols.

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**I have no financial
relationships to
disclose.**

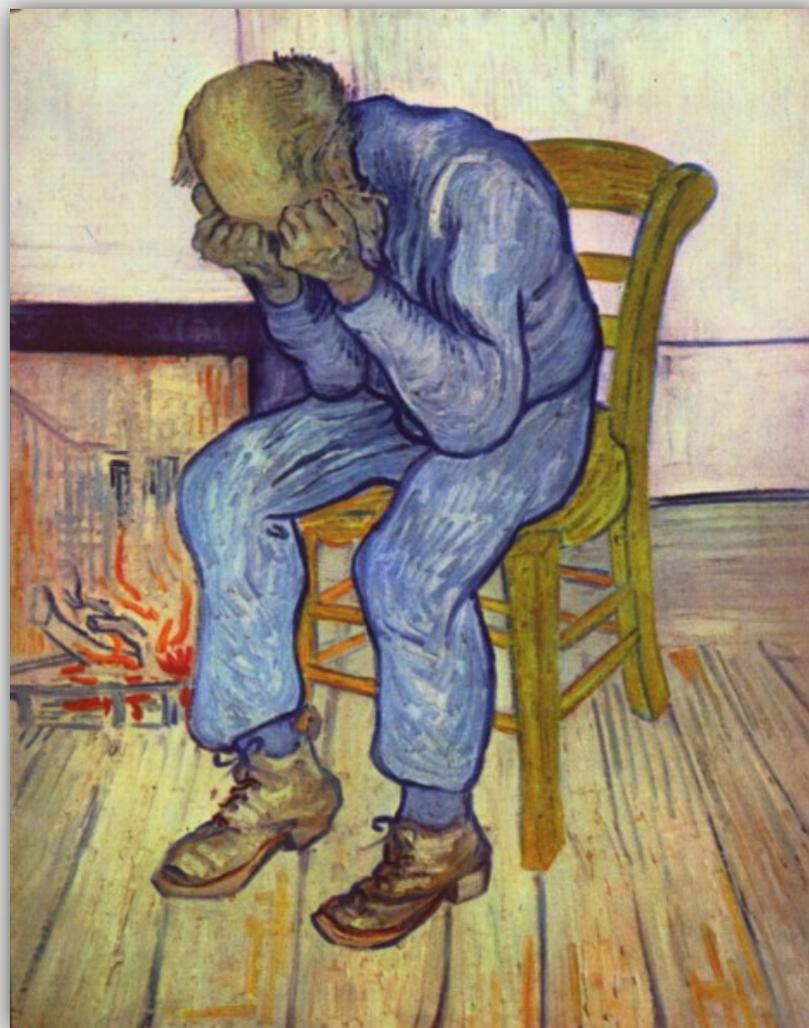


Outline

- Define Poststroke Depression
- Clinical Presentation
- Epidemiology
- Sequelae
- Treatment



Poststroke Depression (PSD)





Depression

- First Note...
- Depression is now considered a risk factor for stroke.



Neuropsychiatric Manifestations of Stroke

<u>Manifestation</u>	<u>Frequency of Occurrence</u>
Depressed Mood	61%
Irritability	33%
Appetite changes	33%
Agitation	28%
Apathy	27%
Anxiety	23%
Sleep disturbances	16%
Aberrant behavior, disinhibition	10%
Delusions	2%
Hallucinations	1%



DSM-V Depression Diagnosis

5 of following for 2 weeks +
(1) depressed mood or (2) loss of interest or pleasure.

- **depressed mood** most of the day
- markedly **diminished interest** or pleasure in activities
- significant **weight loss** when not dieting or weight gain
- **insomnia** or hypersomnia
- **psychomotor agitation or retardation**
- **fatigue** or loss of energy
- **feelings of worthlessness** or excessive or inappropriate guilt
- diminished ability to think or **concentrate**, or indecisiveness
- recurrent thoughts of death, recurrent **suicidal ideation**



Depression: Young vs. Elderly

	Younger patients	Elderly patients
Depressed mood	+++	+(+)
Cognitive impairment	+	+++
Retardation	++	++
Somatic symptoms	+	+++
Anxiety	+(+)	+++
Psychotic symptoms	(+)	++
Hypochondria	+	++



Poststroke Depression (PSD) Defined

- Depression which occurs after stroke and can not be ascribed to any other mental illness
- Also termed **Vascular Depression**= depression associated with cerebrovascular disease.
-
- Vascular Depression is thought to result from disruption of prefrontal systems and lesions damaging the striato-pallido-thalamo-cortical pathways.



PSD Core Features

- Persistent sadness
- Hopelessness, helplessness, worthlessness
- Feelings of being a burden on family
- Amotivation
- Loss of interest
- Passive and/or active suicidal ideation



PSD Subtypes

- **Early**-within 3 months of the stroke
 - ↑ Somatic signs of depression
 - Earlier onset of melancholy
 - ↑ Social withdrawal
 - ↑ Amotivation
- **Late**-anytime after 3 months of the stroke



Increased risk for PTSD:

- Age
- Female gender
- Single living
- Unable to return work
- ↓ Social activities
- Change in ability to communicate
- Stroke severity
- Prior history of depression



When does PSD occur?

- First 2 years is the greatest risk
- Highest in the first 3-6 months



Does Lesion location predict PSD?

- Multiple studies suggest:
 - Left frontal lobe
 - Basal ganglia
 - Left hemisphere >> Right hemisphere
- Multiple reviews do not demonstrate an association between lesion site and development of PSD.



What makes diagnosis difficult?

- Signs of depression overlap with stroke
- Depression complaints are more vague
- Lack of properly trained personnel
- Lack of assessment tools for diagnosis



Differential Diagnosis

- Hypoactive Delirium
- Adjustment Disorder, depressed
- Abulia (particularly with frontal strokes)
- Dementia
- Pseudobulbar affect



Epidemiology of PTSD

- 30-50% will meet criteria for depression within the first year
- Depression rates are the same in:
 - Acute hospitalization setting
 - Rehabilitation Center
 - Outpatient Clinic
- Rates are relatively consistent across cultures



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Sequelae





PSD is associated with:

- Poorer functional outcomes
- Consistently higher mortality rates
- One of the strongest factors impairing recovery of ADLs



PSD is associated with:

- Burden for patients and caregivers
- ↑ Attention deficits, cognitive impairment, and impaired learning
- Executive and motor dysfunction
- ↑ Disability
- Poor response to rehabilitation
- Slower physical recovery
- ↓ Quality of life and ↑ mortality



Treatment





Treatment

- SSRIs are first line treatment
- Stimulants may be considered
- Less data to support SNRIs

- Cognitive Behavioral Therapy (CBT)
- Electroconvulsive Therapy (ECT) for treatment refractory PSD
- Medication treatment should be continued for up to 2 years



Selective Serotonin Reuptake Inhibitors

- First-line agent in PSD treatment
- No strong data recommending one SSRI over another
- Commonly studied SSRIs include escitalopram, sertraline and fluoxetine
- Poststroke SSRI use is linked with increased survival



Selective Serotonin Reuptake Inhibitors

- FLAME study: Patients s/p ischemic stroke with a significant motor deficit were given an early prescription of fluoxetine or placebo with physiotherapy
- Patients given fluoxetine had lower rates of depression and better motor function as compared to the placebo group at 3 months.
- The SSRIs such as fluoxetine are thought to modulate brain plasticity and thereby improves motor recovery.



Tricyclic Antidepressants

Nortriptyline

- The first choice among TCAs
- Its use may be limited because of side effects
- The best studied drug among TCAs

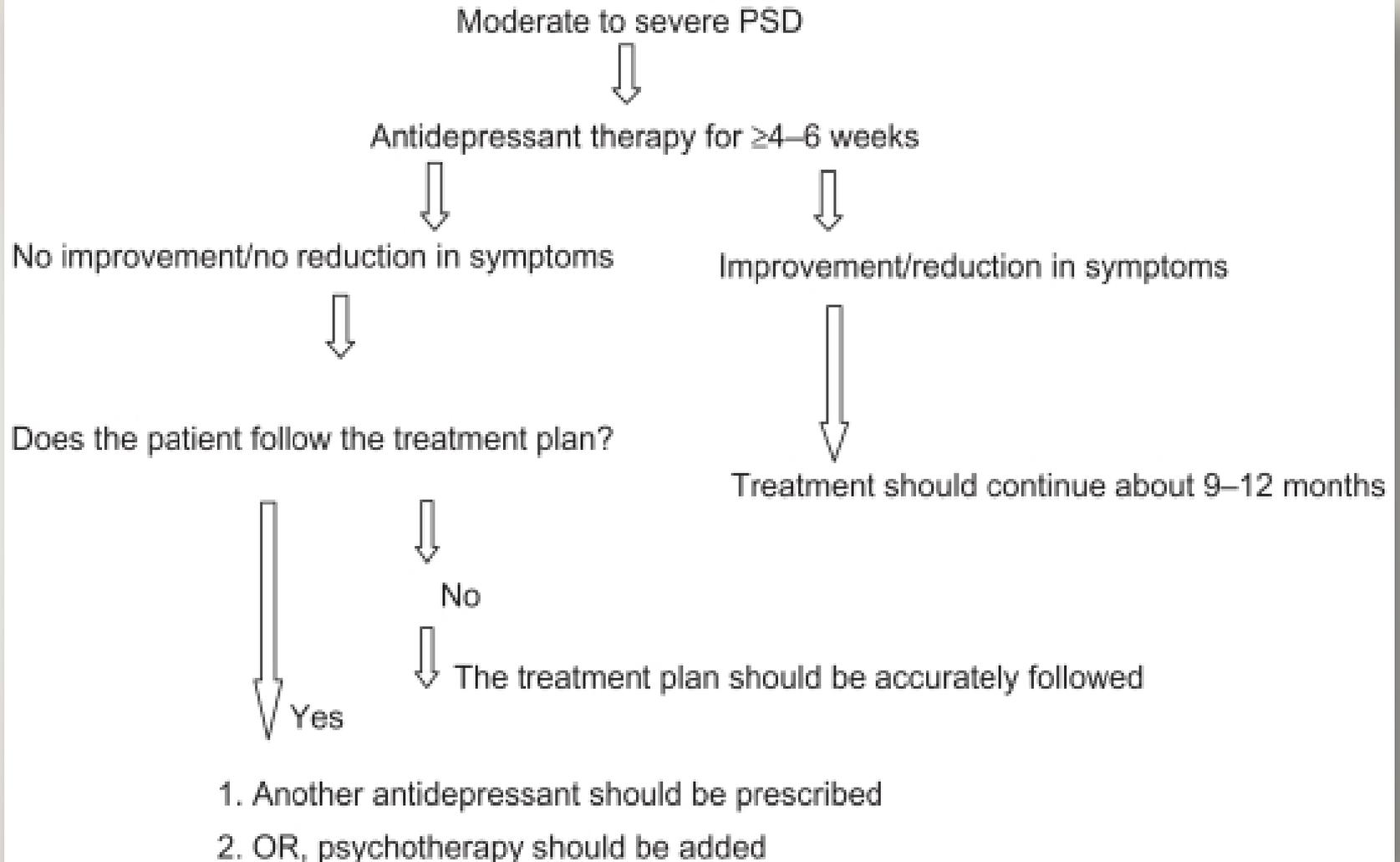
- **Average Dose:** 20 mg

- **Side effects**
 - Anticholinergic effects: glaucoma, confusion, urinary retention, and blurring of vision
 - Antiadrenergic activity: hypotension and dizziness



Stimulants in PSD

- Some studies supporting use of methylphenidate for PSD
- These have shown:
 - Rapid mood elevation as compared to antidepressants
 - Improved motor functioning
 - Improved ADLS without many side effects
- Stimulants should be considered in:
 - Depression with significant amotivation
 - Poor participation in therapy
 - In need of a rapid response





CBT in PSD

- CBT has been shown to be efficacious
- Particularly useful when medications are not tolerated
- Drawbacks include:
 - Higher costs
 - Increased staff time and higher expertise
 - Slower response requiring several weeks before response



ECT in PSD

- Used in severe depression, treatment refractory depression, and life threatening depression
- Not recommended as first line treatment
- Very rapid onset of response
- One study found a 95% improvement rate in PSD
- Drawbacks include:
 - Cardiac complications
 - Memory loss
 - Delirium

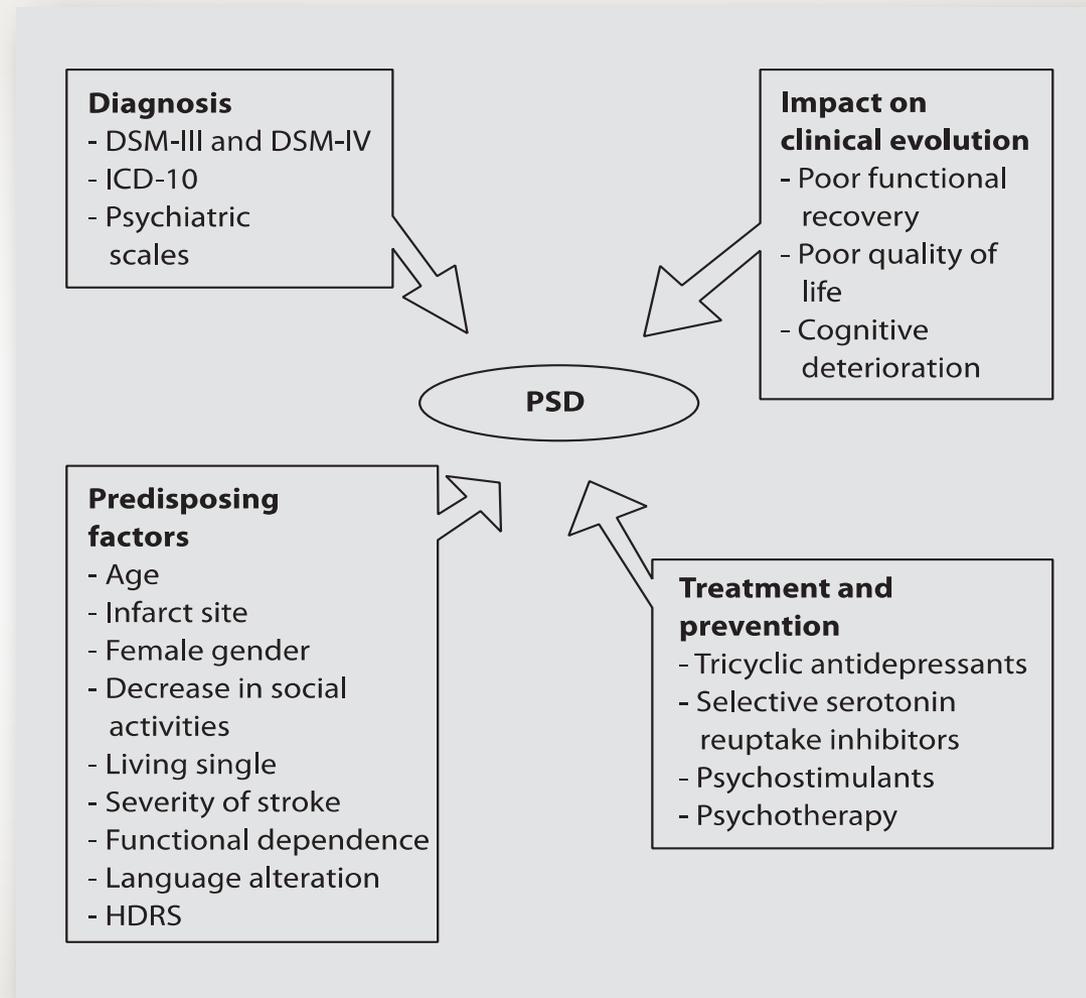


Transcranial magnetic stimulation (rTMS)





In Summary





In Summary

Early diagnosis of depression and rapid initiation of aggressive treatment may reduce stroke recurrence, aid in recovery, and decreasing mortality.



References

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Questions

