



MINDS NEWSLETTER

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Monthly Newsletter on Psychiatry for Doctors and Medical Students

Volume 08

Issue 02

February, 2018

From The Desk of Editor.....

"Mirror Neuron System "

Mirror neurons are a special class of neurons discovered in the 1990s. Mirror neuron system (MNS) represents one of the most important discoveries in the area of neuropsychology of past decades. They respond when we perform an action and also when we see someone else perform that action. They play a role in the pathophysiology of some neuropsychiatric diseases. Mirror neurons can encode an observed action in motor stimuli and allow its reproduction. Major functions of MNS include action understanding, imitation, learning, empathy, all of which are critical for an individual to be social (social cognition). It is proposed also that the shared neural activation pattern and the accompanying embodied simulation constitute a fundamental biological basis for understanding another's mind.

A dysfunction of the mirror neuron system may be at the root of the inability to empathize in patients with autism and may play a role in some negative and positive symptoms found in patients with schizophrenia. Hyperactive states of the MNS may be responsible misperception of benign social cues as threats (paranoid delusions), and hallucinations in schizophrenia; hypoactive states may explain a key clinical feature of autistic spectrum disorders.

Mirror neurons are an anatomical entity that enables improved understanding of behavior and emotions, and serves as a base for developing new cognitive therapies. Additional studies are needed to clarify the exact role of this neuronal system in social cognition and its role in the development of some neuropsychiatric diseases.

Dr. Sunil Kumar G Patil

REFRAME – Let Awareness Reframe Assumptions: Myths and Facts – Developmental Disability

- ☒ Person with developmental disability cannot learn
 - ✓ They constantly learn although at a slower rate
- ☒ Those with developmental disability are not employable
 - ✓ They can perform wide variety of jobs/tasks when given a chance
- ☒ Developmental disability is a contagious disease
 - ✓ It is not, it is due to damage to developing nervous system
- ☒ Developmental disease can't be prevented
 - ✓ Can be prevented in some cases with good ANC and PNC care
- ☒ Individual with developmental disability can't live independently
 - ✓ They are capable of living in community with little or no support

Dr. Namrata Srinivasan, Intern, MVJMC&RH, Hoskote, Bengaluru

A couple of months ago, one of my patients who suffer from Bipolar Disorder came to see me with his wife. That day I had a DNB and family medicine post graduate with me doing her psychiatry rotation. "Doctor, my uric acid level is raised and I have a couple of questions for you, he said. "One is about the association of uric acid and bipolar disorder and the other is whether my medication sodium valproate will raise my uric acid level?, he asked in a quick succession. I was surprised, for I did not have a clue to the answers. "I shall check these out and let you know when we meet again", I said. In any case he was euthymic and I wanted to bide my time. I assured him that I would consider a dose reduction of his medication, the next time we meet.

Barely was the patient out of the room when the postgraduate doctor waved her smart phone at me displaying an article on the association between raised uric acid and BPAD. My jaw dropped in amazement. What dexterity in typing the search and to back it up there was 4G speed data access? Everything is at your finger tips these days, I thought.

By the way, the article stated that purinergic dysfunction is associated with BPAD in all phases of the illness. It may be a trait marker for higher vulnerability to BPAD and the uric acid may rise further during a manic episode. There is decreased adenosine activity and amplified purine metabolism. Valproic acid does not affect uric acid levels. Now I had my answers ready for the next encounter with the patient.

My memory went back to the time when I was resident, training at NIMHANS. One day during the ward rounds, I presented a patient who had chronic schizophrenia. The consultant gave me a patient listening and then asked me "what studies do you know regarding the course and outcome of schizophrenia, can you name some follow-up studies?" I did not have an answer to offer. No data existed in my head and there was no data at hand in those days. (Any G – 2G, 3G, or 4G). The only way we could access information was to go to the library and search through books and journals or to talk to colleagues.

When I was about to embark on the task of reviewing the literature for my MD thesis, one senior colleague suggested that I request somebody in the US to do a Medline or Medlar search. I remember that such of us who did so would get reams of paper with the references. Now doing such a search is a lot easier. During my child psychiatry rotation, we had the privilege of having a case discussion with Dr. Maria Kovacs who was visiting NIMHANS from the US. She was an authority on childhood depression and it was an enriching experiencing for us. At one of the recent ANCIPS, Dr. George Valliant from the US was an invited speaker. I did not attend that conference but happened to meet a colleague who had done so. With much excitement I asked him what he thought of that lecture. Listening to psychiatric luminaries always excited me. "Nothing much, you did not miss anything, you can watch him on YouTube" was the response. How true, a lot gets preserved on the YouTube for posterity. It's all easily accessible and very convenient.

Sometimes, I ruefully recollect T.S. Elliot's 'The Rock' wherein he wrote "All our knowledge brings us nearer to our ignorance. All our ignorance brings us nearer to death. But nearness to death no nearer to God. Where is the life we lost in living? Where is the wisdom we have lost in knowledge? Where is the knowledge we lost in information? The cycles of heaven in twenty centuries bring us farther from God and nearer to the dust." I quote this because very often I find myself confused and perplexed when facing some patients with behavioral disorders. We had no biomarkers then nor do we have any now. Are we not struggling in unraveling the mysteries of behavioral disorders?

Dr. VikramPrabhu, Consultant psychiatrist, Bengaluru

BREAKING THE BAD NEWS

Doctors need astute clinical skills; they also need good communication skills. Doctors face the unique challenge of having to break bad news to patients and their families thousands of times over span of their professional lives.

Disclosing unfavourable information is an act which evokes distress in both the physician and the patient. It is complex communication task, when done skilfully renders benefits to both. As all medical procedures, it can be broken down to steps and protocols. It can impact the following.

1. Patient's comprehension of medical information
2. Prevention of unhelpful emotional responses and promote positive psychological adjustment to diagnosis, treatment and prognosis
3. Patient's active participation in therapeutic decisions
4. May avoid unhelpful use of 'curative' treatment, and focus on improving quality of life.
5. Gives opportunity to patient and family to set financial and other family affairs in order, use available time fruitfully.

Number of factors aside from deficient knowledge can affect the doctor's ability to impart bad news sensitively, like burnout and fatigue, personal difficulties, personal beliefs on disease and death.

SPIKES PROTOCOL for breaking bad news is discussed below.

Step 1: *Setting* up the interview

Be thorough with patient's medical history and current medical condition. Familiarise yourself with information on patient's education, occupation, cultural and ethnic background, family tree, important and close family members. Physical setting of interview room is important.

Step 2: Assessing patient's *Perception*

Follow the adage, 'before you tell, ask'

Step 3: Obtaining patient's *Invitation*

While majority of patients desire full information, some patients don't. Shunning information is a normal psychological defense mechanism. If the patient is not yet ready to receive the news, respect patient's decision and postpone the interview until patient is ready.

Step 4: Giving *Knowledge* and information to the patient

A *warning shot* to prepare them may be helpful, such as, "I'm afraid the news is not good". Such words can lessen the emotional impact, and partially prepare the patient to receive bad news by anticipating it.

Chunk and check: Give information in chunks, and check whether the patient is listening and comprehending the information. Use empathy and supportive gestures.

Step 5: Addressing patient's *emotions* with *Empathic* response

Observe for patient's emotions like fearfulness, sadness, silence, shock. Identify and address them.

Step 6: *Strategy* and *Summary* - Finish with a summary and agree a plan for the next steps, including a further appointment. Do not expect to deal with everything in one appointment. If there has been lot of information, it may need repetition and reclarification in another session. Inform other colleagues in care giving team about how the interview went.

LAB MEDICINE AND MENTAL HEALTH

The mental health though considered as clinical diagnosis, need thorough lab workup to identify (Positive test) to rule out (Negative test), monitor rarely, prognosticate the disease process.

To understand in brief you can classify the laboratory role:

1) To identify the disease process

This is common in lab to be seen for drugs of abuse in urine/blood. The drugs are chosen to suit the clinical use of that region and abuse pattern. Sometimes false positive are common because of the technology used is lateral flow Immunochromatography which are highly sensitive. Then tests need further testing by mass spectrometry based confirmation; however, it is of clinician choice. The important aspect is identity of sample, as per standard protocol one cannot bring Urine sample collected at home. To add you can also think of Vitamin toxicities which can be diagnosed by Vitamin Assay.

2) To rule out the diagnosis

This is usually non specific and involves many tests including radiological tests. Eg: Lead levels in suspected heavy metal poisoning, thyroid hormone level in anxiety disorders, etc. Many instances of patient walking to the lab also request these tests especially who have hypochondriasis and somatoform disorders

3) To monitor disease/drug

It is very important in most cases to do drug level like lithium, Valproic acid, and others. These tests are reliable as technology used is ECLIA/ CLIA ElectroChemiLuminescence Assay/mass spectrometry. **NABL/CAP** Accredited laboratories practice of critical reporting system. If any value is found in toxicity level, they immediately report to the clinician. In cases you not getting such alerts, one should advise the lab to start critical alert concept.

4) Prognostication

This is usually not based on laboratory. The utility in most cases is limited to monitor general health.

Another aspect of worth discussion is testing of HIV. Laboratory conducts counseling to all patients who get tested positive while handing over their reports as legally cannot be revealed to any other person (confidentiality). Also note that the screening tests are misleading in patient on chemotherapy pregnancy, animal handlers, shows high false positive results. These cases to be referred to tertiary laboratory for three methods testing including Western blot to confirm.

Lab medicine is indeed a big ally to help the patient and physician and as well in keeping healthy society.

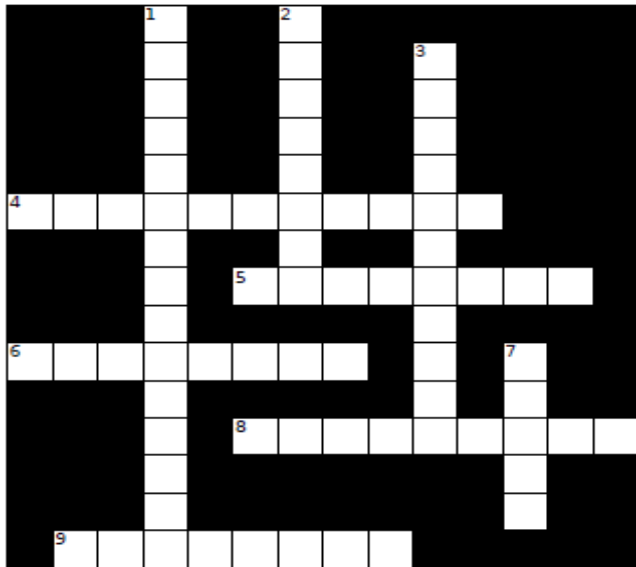
UG n PG

**AN EXCLUSIVE SECTION FOR
UNDERGRADUATES AND
POSTGRADUATES**

UG n PG

MINDS QUIZ

- Intense nihilism, somatisation and agitation in old age are hallmark symptoms of:
 - A. Involutional Melancholia
 - B. Atypical depression
 - C. Somatized depression
 - D. Depressive stupor
- Somatic Passivity is seen in
 - A. Depression
 - B. Hypomania
 - C. Body Dysmorphic disorder
 - D. Paranoid schizophrenia
- Which is not a cognitive dysfunction?
 - A. Overgeneralization
 - B. Thought block
 - C. Catastrophic thinking
 - D. Arbitrary inference
- Treatment of alcohol dependence is by all except?
 - A. Disulfiram
 - B. Naltrexone
 - C. Flumazenil
 - D. Acamprosate
- Most common cause of premature death in schizophrenia?
 - A. Drug toxicity
 - B. Nosocomial infection
 - C. Homicide
 - D. Suicide



ACROSS

- Most common drug presenting with schizophrenia like Psychosis is(11)
- Amotivational syndrome is seen with (8)
- Satisfying internal needs through helping others (8)
- Cognitive triad of depression postulated by (9)
- Stepwise progression of dementia is typically seen in _ dementia (8)

DOWN

- Persistent preoccupation with serious illness and normal body function is called (15)
- Kluver bucy syndrome is due to damage to the _ (8)
- It is the classical sign of catatonia where there will be involuntary resistance to passive movement (11)
- The ' topographic theory of mind ' advanced by (5)

**Can
You
CROSS
THE
CROSS
WORD**

Dr. Priyanka Mantagi, Intern, MVJMC & RH, Hoskote, Bengaluru



QR Code for MINDS website

- DOWN**
- Hypochondriasis
 - Amygdala
 - Gegenhalten
 - Freud

- ACROSS**
- Amphetamine
 - Cannabis
 - Altruism
 - Aaronbeck
 - Vascular

CROSS WORDS

Dr. Neha Chandrashekar, Intern, JSSMC, Mysore

- ANSWERS**
- MINDS QUIZ**
- Involutional Melancholia
 - Paranoid schizophrenia
 - Thought block
 - Flumazenil
 - Suicide

MINDS Newsletter was launched in July 2011 as a Monthly Newsletter on Psychiatry for doctors & medical students for creating awareness and continued medical education. You can receive a free e-copy of MINDS by an e-mail request to editormind@gmail.com, or by just SMS MINDS to Editor: +91 9845219324/ Asst. Editor:

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