GNG Monthly Discussion: Sep 24

Thank you all for being a vital part of the GNG community. This marks our inaugural monthly discussion roundup, designed to help everyone revisit the summary of conversations we've had throughout the month. We are also working on quarterly monthly newsletter with INA.

Papers shared

Thanks, Jesus, for being the main contributor, and thank you everyone else for sharing. All the papers are available under the educational section of GNG. Some of the links are attached.

Global Neuropsychiatry Group

1. Long-term clinical recovery and treatment resistance in first-episode psychosis: a 10-year follow-up study. https://doi.org/10.1038/s41537-024-00489-7
2. Frontostriatal salience network expansion in individuals in depression.
3. Treatment outcomes in the inpatient management of severe functional neurological disorder: a retrospective cohort study. Medford et al. DOI: 10.1136/bmjno-2024-000675
4. Nice guidelines on ADHD. https://www.nice.org.uk/guidance/ng87/resources/attention-deficit-hyperactivity-disorder-diagnosis-and-management-pdf-1837699732933
5. ASD diagnostic interview guide from RCPsych. https://www.rcpsych.ac.uk/docs/default-source/members/sigs/neurodevelopmental-psychiatry-special-interest-group-ndpsig/ndpsig-autism-diagnostic-interview-guide-2.pdf?sfvrsn=1dc6557_
6. Autismreserachcentre.com. https://www.autismresearchcentre.com/
7. 7. AAA tool for ASD assessment.
8. 8. The plastic crisis: a neuropsychiatric problem hidden in plain sight. Ryznar et al. https://www.psychiatrictimes.com/view/the-plastics-crisis-a-neuropsychiatric-problem-hidden-in-plain-sight
9. 9. Drug interventions for acute management of migraines in adults. https://doi.org/10.1136/bmj-2024-080107
10. Family history in Parkinson's disease: a national cross-sectional study.
11. Neuroplasticity associated with pregnancy.
12. Dangers of self-diagnosis in Neuropsychiatry. David et al.
13. A potential target for non-invasive neuromodulation of PTSD symptoms derived from focal brain lesions in veterans. https://doi.org/10.1038/s41593-024-01772-7
14. Neuroleptic Malignant Syndrome: Review Article. https://www.nejm.org/doi/full/10.1056/NEJMra2404606

15. Neuroanatomical changes are observed over the course of a human pregnancy. https://doi.org/10.1038/s41593-024-01741-0
16. COVID-19 and Mental Illnesses in Vaccinated and Unvaccinated People
17. Markers of positive affect and brain state synchrony discriminate melancholic from non-melancholic depression using naturalistic stimuli. https://rdcu.be/dSsOs (Paper from our esteemed group member Phil Mosley).
18. Ketter's hypothesis of the mood effects of antiepileptic drugs coupled to the mechanism of action of topiramate and levetiracetam. https://doi.org/10.1016/j.yebeh.2005.01.005
19. Cerebrospinal fluid flow extends to peripheral nerves.
20. Should rTMS be considered a first-line treatment for major depressive episodes in adults? https://doi.org/10.1016/j.clinph.2024.06.004
21. A Simple Score (MOG-AR) to Identify Individuals at High Risk of Relapse After MOGAD Attack.
22. The many faces of globular glial tauopathy: a clinical and imaging study. https://doi.org/10.1111/ene.15603
23. Mania Following Traumatic Brain Injury: A Systematic Review https://doi.org/10.1176/appi.neuropsych.20220105
24. Case of Autosomal-Dominant Alzheimer Disease With Ribbon-Like Cortical Calcifications.
25. https://www.bbc.com/news/articles/czjy8zne34xo. Men on sodium valproate told to use contraception. There is a potential small increased risk of autism and other neurodevelopmental disorders.
26. Cerebrospinal fluid extends to peripheral nerves.
27. Epidemiology of Chronic Effects of Traumatic Brain injury. https://doi.org/10.1089%2Fneu.2021.0062
28. An anti-depressant drug vortioxetine suppresses malignant glioblastoma cell growth. https://doi.org/10.17912%2Fmicropub.biology.001173

New Members: Welcome on Board

We added 28 members to our global community. Thank you so much for being part of the journey.

1. Simon Dosovitz – Director of ECT, NYC, USA
2. Elizabeth Ryanair, Psychiatrist, USA
3. Sarah Khalife
4. Emma Vaccari – Psychiatry, UK
5. Shewikar El Bakry: Psychiatrist, Egypt
6. Rohith Srivathsava- psychiatrist, India
7. Antonio Escobar, Psychiatrist, Mexico
8. Ifeoluwa Oduguwa, Clinical Scientist, Nigeria
9. Stephen O'Connor
10. David Ward – Neuropsychiatrist, Australia
11. Alexis Tarrada, psychiatrist in France (Nancy)
12. Mohamed Elsharif -Psychiatry, UK
13. Mikel Rojo – Physician, Munich
14. Facundo Ferrand, Psychiatrist from Argentina
15. Jeanneré Jordaan – Psychiatrist, Cape Town, South Africa

16. Ishaac Awatli, psychiatrist, London, UK
17. Jiunn Heng Chee
18. David Palmer
19. Kuhilan Gounder
20. John O'Sullivan
21. Elie Matar
22. Adam Milad
23. Gwen Collin
24. Rebecca Fitton
25. Pramod Krishnan, Neurologist, India
26. Killian Welch – Edinburgh, Scotland, Neuropsychiatrist.
27. Maytal Wolfe – Liaison psychiatrist, Glasgow, Scotland
28. Shewikar El Bakry, Psychiatrist, Egypt

Group Discussions

Exploring Chronic Functional Neurological Disorder (FND).

In this dialogue, we concentrated on chronic Functional Neurological Disorder (FND), highlighting the importance of identifying ongoing mental health challenges and the implications of undiagnosed neurodevelopmental disorders. We investigated the crucial role of psychoeducation in the management and treatment of these conditions. Additionally, we assessed a multidisciplinary team (MDT) approach to tackling FND. Our heartfelt thanks go to Dr. Medford for graciously agreeing to present the paper to our group.

A total of 52 patients were observed in this study, with an average illness duration of an impressive 9.7 years. Notably, the referral and admission criteria adopt a 'no case too difficult' stance, accommodating various physical and psychiatric complexities. However, it is essential for patients to engage with the treatments provided and to collaboratively establish a mutually agreed-upon treatment plan. Among the patients, 1 (2%) experienced deterioration, 8 (15%) remained unchanged, 19 (37%) showed minimal improvement, 12 (23%) reported much improvement, and 12 (23%) indicated very much improvement according to clinician-rated GGI-I. The Q-VAS scores, which assess overall health on a percentage scale from 0 to 100, increased from a mean of 46 (range 10–90) upon admission to 65 (range 29–100) at discharge. Given the duration and complexity of the illnesses, these figures are quite revealing, and the changes observed are also statistically significant. **Tim Nicholson**

It would be beneficial for neurodevelopmental conditions to be identified and addressed in adults prior to assigning the label of Functional Neurological Disorder (FND). – **Mohan Rathnaiah**

We encounter a significant number of adults with neurodevelopmental disorders (NDD) who were not diagnosed during childhood. Our multidisciplinary assessments prove to be invaluable for this group, as indicators like suboptimal intelligence, fine motor disabilities, and uneven educational progress often become apparent. Typically, each patient is evaluated

by a psychologist, a physiotherapist with a focus on NDD, and a holistic physician, all utilizing standardized outcome measures.

In this neurodiverse population, we frequently observe a higher prevalence of dysautonomia, which contributes to functional neurological disorder (FND) presentations. Commonly reported issues include chronic fatigue, temperature and exercise intolerance, altered sweating patterns, and gastrointestinal health problems, alongside our custom 30-symptom autonomic nervous system (ANS) checklist that goes beyond the typical POTS diagnosis.

We provide rehabilitation through non-invasive brain stimulation (NIBS), exercise regimens, behavioral psychotherapy techniques, and holistic care strategies. Notably, one of our ongoing projects involves 42 adults with various forms of NDD residing in long-term care facilities. **Krish (Budhi Clinics)**

A significant number of patients come to us with Functional Neurological Disorder (FND), and the most prevalent comorbidities include mixed anxiety and depression, chronic pain syndromes, fatigue, and various forms of Clinical Autonomic Dysfunction (Dr. Christopher Mathias, Imperial College, London). Many individuals also present with Overactive Bladder, with a higher occurrence in males compared to females. An effective, intensive multidisciplinary approach that incorporates different medical specialties, active physiotherapy, yoga with pranayama, and regular physical exercise—along with adequate sunlight exposure for 30 to 60 minutes daily—tailored to comorbid medical conditions, social connectivity, and mindfulness training programs consistently proves beneficial. **Srivastava**

I know from experience how difficult and ‘intractable’ this patients can be so this is really grounds for optimism and pride on the part of the staff. **Tony David**

The neural network pathology that links / overlays dysautonomia (POTS, MECFS), FND , ADHD is fascinating. **Lyndal**

It appears that underlying brain dysfunction or abnormal connectivity may play a role in the range of clinical manifestations, such as ADHD traits alongside migraine, RBD, and NEAD. Treating ADHD effectively could also alleviate symptoms of NEAD.

Discussion on the availability of resources to diagnose to neurodevelopment disorders. Resources shared as above.

Other Comments

“ A beautiful mind” - Comment was made on a paper on Josh Nash, author had mentioned that his schizophrenia was related to repressed homosexuality and would have been cured if he was allowed to address it.

The question was asked in the group, if Freud was Neuropsychiatrist. Some of the group members felt there was nothing neuro about his work. And there were discussions around the

awareness of holistic assessment and treatment using biopsychosocial approach rather than categorising brain and mental health problems under the realm of any speciality.

A comment was made: I believe the title of his biography, "A Beautiful Mind," encapsulates everything. While neuropsychiatry is relevant, I feel it’s more about understanding how the mind functions in both normal and various conditions. It’s crucial to separate what is affecting the individual in specific situations and to treat the person as a whole, recognizing their strengths. His case exemplifies this well; if I’m correct, his work in game theory occurred after he was diagnosed with schizophrenia! Therefore, it’s essential to remember that while someone may have a mental condition, it doesn’t mean they are disordered all the time. Any co-morbidities should be managed similarly, and it's important to possess the skills to distinguish traits from disorders. Thank you for sharing the paper, if possible!

Neuroplasticity associated with pregnancy.

Continuous monitoring of brain changes during pregnancy through serial MRI bran scans. The data provides a comprehensive map of the human brain across gestation.

26 MRI scans on a single person pre-conception to 2 years post-partum.

Key Points:

- Pregnancy is a period of profound hormonal, physiological & neuroantomical changes.

- There were pronounced decreases in gray matter volume and cortical thickness.

- There were increases in white matter microstructural integrity, ventricle volume and cerebrospinal fluid.

- There were few regions untouched by the 'transition to motherhood.

Microplastics and impact on brain

First, microplastics have been documented in human placentas, raising the question of their impact on fetal brain development, given the link between placental health and future risk of neuropsychiatric conditions.

Second, microplastics accumulate in the heart and blood vessels. New research is emerging on how microplastics affect cardiovascular health, which in turn affects brain health. A recent prospective study in The New England Journal of Medicine assessed outcomes in patients who underwent carotid endarterectomy for asymptomatic disease.

Plastic polymers were detected in the removed plaques of 58% of patients, and these patients had a dramatically higher composite risk of myocardial infarction, stroke, or all-cause death over a 34-week follow-up period.

the interaction between gut and mental health is of increasing focus in psychiatry, and ingestion of microplastics has substantial effects on gut function and the human microbiome.

bisphenol-A (BPA), which can be found in food and beverage containers and baby bottles, among many other sources, has been implicated in neurodevelopmental, mood/anxiety, and neurocognitive disorders.

Results of initial research that followed a small cohort of children starting at gestation suggest that prenatal BPA exposure is associated with anxiety and depression in boys.

Based on their extensive expertise in environmental health research, Grandjean and Landrigan hypothesized that BPA and other plastics chemical additives are neurotoxic and that their increased presence accounts for the increasing prevalence of autism, attention-deficit hyperactivity disorder, and cognitive impairments in children.

BPA can also disrupt the blood-brain barrier, making it a potential environmental risk factor for Alzheimer disease.

New research has recently been funded to investigate BPA and blood-brain barrier disruption in patients with Alzheimer disease.

As a field, psychiatrists need to assess how our health care systems and professional organizations are using plastics and contributing to plastics waste. The goal is not to eliminate all plastics but to eliminate unnecessary plastics!

Ageing related neurodegeneration and cognitive decline. Shel Benjamin

One of our alumni just forwarded an interesting paper from Sweden—1610 unselected subjects who had post-mortem examinations for all causes—only 2% did NOT have hpTau, most had multiple proteinopathies and only a few had none at all. I'm afraid we are all slowly accumulating pathological proteins as we age.

Academic meeting: 26th Sep.

Topic was Traumatic Brain Injury. Here is the link for the video and transcript. It was well attended. 🌐 Global Neuropsychiatry Group - The International Neuropsychiatric Association

Don't forget to see all of our previous academic meetings, presentations, case studies and recordings visit the INA website. Please consider joining INA.
🌐 Home - The International Neuropsychiatric Association

Next Meeting (Be mindful of day light saving time changes)

31st October

10:30-11:15PM – Webinar

11:15-12:00 PM – Case Presentation

London Time

Presenters

Prof. Sheldon Benjamin

Professor of Neurology and Psychiatry, Director of Neuropsychiatry

University of Massachusetts T H Chan School of Medicine

Katarina Hughes - Resident

Chair: Prof Michael Kopelman

Topics

Growing Up Without Frontal Lobes: The Story of JP based on our January 2023 paper.

Long term followup of adolescent frontal injury.

POLLS

We had three polls

1. Common causes of post-TBI aggression(N=56)

    Frontal lobe injury, N=27

    Cognitive impairment, n=11

    Depression, n-7

    Substance misuse, n=7

    Poor social functioning, n=4

    Prof Carson advised poor communication could be a strong factor for aggression.

2. Neuropsychiatric conditions with high prevalence rates post one year moderate to severe TBI? N= 30

    Cognitive Impairment, N=11

    Depression, n=9

    Apathy, n=7

    Behavioural Dysregulation Syndrome, n= 4

Mania, n=3

Substance Use Disorders, n=1

Anxiety Disorder, n=1

Personality Disorder, n=1

Psychosis, n=0

3. Sticking with the theme of this months academic meeting. Which pharmacological agent has a good evidence for controlling aggression in TBI patients?n=46

Propranolol, n=13

Sodium Valproate, n=17

Risperidone

Olanzapine, n=2

SSRIs, n=11

Buspirone

Trazodone, n=3

Mirtazapine

Topiramate was suggested by Krish as an alternative, see paper by Ketter as above.

Survey

Cesar Koga from Brazil is doing an online survey for neurologists at better understanding neurologists perception on the management of psychiatric disorders in people with epilepsy.

Our main goal with this survey is to pave the way for a future larger research project that aims to highlight the importance of Neuropsychiatry among neurologists in Brazil.

This survey is exclusively for neurologists or neurology residents/trainees and was designed to be very straightforward (it takes less than 5 minutes to complete).

I kindly ask the neurologists in this group to take a moment to respond if possible!

It would also be greatly appreciated if everyone could share this survey with other neurologists or neurology residents/trainees. We are trying to gather as many responses as possible, globally!

Link to the survey:

https://forms.gle/sK9fsRTD78rBbUn7A

Feel free to contact Cesar in case of any comments or questions:

Email: cesarkogack@gmail.com

Cellphone: +55 41 996955209

Meetings attended

ACNA conference Brisbane

Cases shared with the group

Four interesting cases discussed. Sharing the brief outline just in case you come across similar presentations

1. Case of speech problems with hallucinations, family history of FTD-MND- possible case of OPTN mutation.

2. Case of primary Progressive aphasia with positive CSF AD findings but negative amyloid scan. Unsure etiology at this stage. Autopsy might tell more.

3. Case of progressive memory and concentration problems. Subtle frontal signs. FDG-PET - suggestive of AD. Autopsy confirmed taupathy(picks bodies in the frontal lobes). Possible Mixed presentation,FTD missed?

4. middle aged man with memory and concentration decline, transient physical symptoms- headche, ringing ears, déja vu, palpitations and fatigue. All investigations unremarkable. After few years diagnosed with TLE. Memory continued to decline. Later presented with Parkinsonian features with shuffling gate and falls. RSBD on sleep study. Possible LATE(Limbic Predominant Age Related TDP-43) and DLB suspected at this stage?

Next meeting 8th October. Link will be shared near the time.

http://acogna.org.au

Other events

INA/RANZCP Conference 27th-29th October, Melbourne.

https://www.ina2024.com.au

Critical care masterclass, Brisbane 21st October

Free webinar and Q&A on building clinical programs for FND - details in my prior message on here. Contact David Perez

Neuroimage Clinical is initiating a Special Issue on brain imaging research in FND. Consider submitting your work! Guest editors: David Perez, Kasia Kozlowska & Selma Aybek. Details: sciencedirect.com/journal/neuroi

Other business

Casual dinner in Melbourne. Join us if you are around. Thanks. Jen Darman

https://forms.gle/V3tpM35gZFDd8L2L6

Thank you everyone for being part of the journey! This was our first attempt to sum up monthly discussions. Any feedback is highly appreciated.

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