

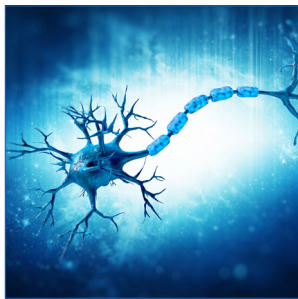
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# Scientific Tracks & Sessions

## November 04, 2019

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### *Neurology 2019*



19<sup>th</sup> International Conference on  
**Neurology and Neurological Disorders**  
November 04-05, 2019 | Melbourne, Australia

19<sup>th</sup> International Conference on

# Neurology and Neurological Disorders

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## Tracing the effects of Epigenetic factors on midface growth, upper airway collapse and intermittent Hypoxia

**David Zimmerman**

TMJ & Sleep Therapy Centers, New Zealand

Considering the causes of the sharp rise of primary human pathologies during the last half of the 19th century, rationalization showed that while alcohol and tobacco were major factors, it is sucrose (cane and beet sugar) that poses the greatest problem. The pathway starts with exposure to these three epigenetic factors in early embryonic growth, before the facial skeleton is determined. Such exposure induces HOX genes into midface growth, normally the sole prerogative of Neural Crest cells. Such induction leads to a truncation of midface growth and resulting in a smaller nasomaxilla and oro-pharynx. This opens two pathways, the first being impaired breathing where intermittent falls and rise of cerebral oxygen induces recruitment of Hypoxia- Induced-Factors [HIF's]. These peptides 'turn- on' the systemic inflammatory chemical factory producing the chemical products that generate systemic inflammation that sponsors and maintains most of human pathology. The second pathway that that of distalising of the mandible and compressing the

soft tissues of the vascular bed of the TMJ which are highly populated with type 4 nociceptors and is thereby arguably converted into the most 'most-painful' joint in the body. This is now a well evidenced claim and the combination of systemic inflammation and of a cortical barrage of sub-clinical barrage of nociceptive signaling subtends most disorders associated with this pattern, principally those ranking high in morbidity.

### Speaker Biography

David Zimmerman has graduated as a general dentist long ago. An interest in orthodontics became one in craniofacial growth, TMD and sleep. The broad spectrum of maladies with a common thread of OSA/SDB demanded rationalizing. The presentation is a short form of these links and of their clinical significance. Dr. Zimmerman is currently involved in examining the relationship between adaptive posture, altered weight distribution and its involving lumbar flexion and damage in attaining weight equilibrium. Understanding adverse lumbar loading is key to reducing both lateral segment damage and reducing the incidence of spinal surgeries.

e: [david@tfdental.co.nz](mailto:david@tfdental.co.nz)

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## Does English proficiency impact on health outcomes for inpatients undergoing Stroke rehabilitation?

Sarah Davies<sup>1,2</sup>, Dodd K<sup>2</sup>, Hill K<sup>3</sup>, Tu A<sup>1</sup>, Zen S<sup>1</sup> and Zucchi E<sup>1</sup>

<sup>1</sup>Northern Health, Melbourne, Australia

<sup>2</sup>La Trobe University, Melbourne, Australia

<sup>3</sup>Curtin University, Perth, Australia

**Questions:** Does English proficiency impact on health outcomes for inpatients undergoing stroke rehabilitation? Does the frequency of interpreter use impact on these outcomes?

**Design:** Retrospective case control study.

**Participants:** People admitted with a primary diagnosis of the stroke to participate in inpatient rehabilitation hospitals within the study period were included. Participants were categorized into two groups based on their preferred language. Group 1 comprised people with native or near-native English proficiency. Group 2 comprised people with low English proficiency who were likely to require an interpreter. Participants from Group 1 were matched for age (+/- 3 years) and gender with those from Group 2.

**Outcome measures:** Retrospective data on length of stay, discharge destination and Functional Independence Measures (FIM) were gathered from patient electronic medical records between 25/09/2008 and 07/05/2012.

**Results:** Participants in the two groups were similar for most of the measures of the premorbid level of function ( $p > 0.05$ ), however, Group 1 had a small but significantly greater number of comorbidities at the time of admission than Group 2 ( $p = 0.02$ ). Group 2 showed a greater improvement in total

FIM from admission to discharge ( $p = 0.04$ ). No significant differences were found between groups in length of stay, discharge destination and time spent in allied health therapy. The frequency of interpreter usage also did not significantly alter these outcomes.

**Conclusion:** English proficiency and frequency of interpreter usage do not appear to impact on the length of stay in inpatient rehabilitation, discharge destination or FIM at discharge for people with stroke undergoing inpatient rehabilitation.

### Speaker Biography

Sarah Davies is Clinical Coordinator of Community Therapy Services and Senior Clinician Neurological Physiotherapist for Northern Health Service in Melbourne. She completed her Bachelor of Physiotherapy at La Trobe University in 2000 and her Masters in Applied Science (Research) at La Trobe University in 2016. She has two research publications: Davies SE et al (2015) Does English proficiency impact on health outcomes for inpatients undergoing stroke rehabilitation? *Journal of Disability and Rehabilitation*, pp 1-9. Davies SE et al (2016) Does cultural and linguistic diversity affect health-related outcomes for people with stroke at discharge from hospital? *Journal of Disability and Rehabilitation*. pp 1-10. Her interest in language proficiency and its impact on health outcomes has sparked from work in culturally and linguistically diverse populations in the United Kingdom, Bangladesh and Australia.

e: sarahdavies78@gmail.com

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## Aspergillus sinusitis complicated with Meningitis and Multiple Cerebral Infarctions in Immunocompetent patient

**Fahad Salih Algreeshah**

Specialized Medical Center, Saudi Arabia

**W**e present this case who is a 33-year-old male complaining of severe headache, neck pain, photophobia, vomiting and high-grade fever of several days. He had history of nasal polyp removal and recurrent sinusitis in the last 8 years. On examination: conscious with glasco coma scale (GCS) 15/15 and normal limbs strength but with positive Babinski sign. For further observation, he was admitted and full work-up was done. Even though full empirical antibiotics were started, there was no immediate improvement and he deteriorated dramatically developing ocular deficit, hydrocephalus and lower level of consciousness with multiple infarctions found at different areas in brain. After that point, a decompressive craniectomy was done, and multiple antibiotics and antifungal medications were prescribed. However, he

deteriorated to GCS 3/15; cardiopulmonary resuscitations were not successful, as he demised next day. It shall be noted that aspergillosis can lead to difficult complications, so diagnosis and treatments should not be delayed.

### Speaker Biography

Fahad Salih Algreeshah, MD is a consultant at Specialized Medical Centre in Riyadh, Saudi Arabia. He graduated from King Saud Medical school in 1998. He became Board certified in Neurology 2005. His interest is Headache and Epilepsy. He did fellowship in epilepsy 2013 from TGH., Tampa. and certified with ABCN in epilepsy monitoring. He had several publications in Epilepsy and Epilepsy monitoring. He was awarded as the best trainee for two consecutive years during training. He worked with groups to establish SAEDMS which is a MS charity organization.

e: falqari@yahoo.com



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## Management of complicated Neurofibromatosis – Our experience

**Shahid Iftekhar Sadique**

IPGMER, India

**N**eurofibromatosis is an Autosomal dominant inherited disorder, with the 6 classical criteria for its diagnosis. Many of these patients presents with varied complications. Neurofibromatosis has been a well-known genetic disorder from 18th century. There has been an extensive work on Neurofibromatosis which leads to multiple criteria for its classification. Neurofibromatosis is associated with multiple tumours ranging from neurofibromas, spinal tumours, schwannomas, gliomas, meningiomas, ependymomas, intraventricular SOL, malignant peripheral nerve sheath tumours etc. Neurosurgeons are quite often challenged to face the following complications - multiple intracranial SOL's, multiple spinal tumours, multiple meningiomas, recurrent spinal tumours, recurrent schwannomas etc.

Neurofibromatosis are also known for their early malignant degeneration to malignant peripheral nerve sheath tumours. Neurofibromatosis type 1 (NF1) is a dominantly inherited tumour predisposition syndrome that targets the central and peripheral nervous system. It is caused by mutations of the NF1 gene which serves as a negative regulator of the cellular Ras/MAPK (mitogen-activated protein kinases) signaling pathway. Owing to the complexity in some parts of its clinical


diagnoses, due to the disease incomplete penetrance and varied penetration, there is a need for better understanding of its molecular relationships. A genetic characterization of this disorder will be helpful in the clinical setting.

At our Institute (Bangur Institute of Neurosciences, Kolkata), we have done a prospective study of all the cases presenting with Neurofibromatosis. In this paper, we are focusing on the rare challenges we faced in managing complications of Neuro-fibromatosis.

### Speaker Biography

Shahid Iftekhar Sadique has completed his Neurosurgery (MCh) at 32 years from IPGME&R (Institute of Post Graduate Medical Education and Research), WBUHS (West Bengal University of Health Sciences), Kolkata, INDIA. He has been giving his unrelentous service to the people of West Bengal for the past 19 years. He has operated many complex Spine, Neurovascular and Neuro endoscopic procedures successfully. He has a number of national and international publications with his field of interest in Neuro Oncology. Presently he is holding a position of Associate Professor of Neurosurgery, at the premier tertiary care Institute, Bangur Institute of Neurosciences IPGME&R, Kolkata, India.

e: [sisadique002@gmail.com](mailto:sisadique002@gmail.com)

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## Folic acid deficiency in Periconceptual period is still major cause of Meningomyelocele in rural areas of western UP

**Sanjay Sharma**

LLRMMC, India

Meningomyelocele is congenital defect and most common neural tube closure defect having high rate of morbidity and disability in children. Its global prevalence is 0.8–1 per 1,000 live births. 80% of Meningomyelocele children may have Hydrocephalus. This study aims to evaluate the clinical profile and use of folic acid in periconceptual period by mothers in rural areas of western U.P., and outcome of children with Meningomyelocele.

**Methods and Materials:** 226 patients with Meningomyelocele admitted in SVBP Hospital, Meerut and in private hospitals of nearby areas between August 2015 to December 2018, were analysed prospectively. The data regarding clinical profile with associated congenital anomalies and supplementation of folic acid by mother in periconceptual period and post-surgical disabilities were obtained by questionnaire-interview with the parents. Drug history pertaining to drugs causing folic acid deficiency was unavailable as most of the patients belonged to low socio-economic strata and were illiterate. MRI was the essential investigation in all patients.

**Results:** Mean age of presentation was 9.1 months. M:F ratio is 1.1:1. Lumbosacral region was involved in 73.5%. Hydrocephalus was in (63.71%, n=144) 92% had No folic acid supplementation & all belonged to socioeconomic status. Excision & repair of Meningomyelocele was performed (80% n=180), dural patch was used in 8.35%(n=15).and 20% unoperated. Out of 180 operated patients 80%(n=144)


improved & were discharged, and 6.6%(n=12) expired, 13.35%(n=24) left against medical advice (LAMA).

**Conclusion:** Low socioeconomic status & no maternal supplementation of folic acid in periconceptual period are the important risk factors for the development of Meningomyelocele. Timely intervention with excision and repair gives good result. Dural patch and modified z-plasty can be used to cover large defects.

### Speaker Biography

Sanjay Sharma has done his graduation and masters in surgery from LLRM Medical College Meerut. Thereafter he did a senior residency in cardiology from GB Pant Hospital and senior residency in Neurosurgery from Safdarjung Hospital Delhi whence he decided to become a Neurosurgeon and cracked the entrance examination. He did M Ch in Neurosurgery from KGMC Lucknow. Currently he is working as an Assistant Professor in the Department of Neurosurgery of LLRM Medical College and running CNS Hospital, a hospital dedicated to Neuroscience. He has presented quite a few papers in National and International conferences. He is the founder member of Meerut Neuroclub. He has served the U.P. Neurocon Society as a secretary, vice president and have been the president for 2018-2019. He is a lifetime member of the Neurological Society of India i.e. NSI, a life member of the Spinal Society of India, a life member of Neuro Trauma Society of India, a life member of IMA, Vista member of Congress of Neurological Surgeons USA. He has been awarded the Meerut Ratan award, Bharat Jyoti award in 2008 and Health ICON award for consecutively two years i.e. in 2018 and 2019..

e: drsanjayneuro@gmail.com

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## Histopathological profile of Posterior Cranial Fossa Midline Tumors in children

**Md. Arif Reza**

National Institute of Neurosciences and Hospital, Bangladesh

**Introduction:** A brain tumor is one of the most devastating forms of human illness especially when they occur in the posterior cranial fossa. Posterior fossa midline tumors are more common in children than in adults. The histological picture cannot be predicted with a high degree of accuracy if the exact tumor location and the imaging characteristics are not taken into consideration.

**Methods and Materials:** This cross-sectional type observational study was carried out at the Department of Neurosurgery in Bangabandhu Sheikh Mujib Medical University (BSMMU) from June, 2014 till November, 2015. Study population was children upto 18 years of age undergoing posterior fossa midline tumor surgery. Sample size was 38. Preoperative diagnosis was made by plain and contrast MRI of brain and confirmed by postoperative histopathology.

**Results:** Medulloblastomas were found in 16 (42.1%) cases. Pilocytic astrocytomas were found in 13 (34.2%) cases. Ependymomas were 6 (15.8%) cases and brain stem gliomas were found in 3 (7.9%) cases. Medulloblastomas and pilocytic

astrocytomas constituted the most bulk 76.3% of the posterior fossa midline tumor in children.

**Conclusion:** In this study medulloblastoma was the commonest posterior cranial fossa midline tumor in children 16 (42.1%), followed by pilocytic astrocytomas 13 (34.2%). Ependymomas are the third most common 6 (15%) and fourth is the brainstem glioma 3 (7.9%).

### Speaker Biography

Md. Arif Reza was born in a village of Philip Nagar, Kushtia in 1981. He completed his primary and secondary education in the village; and higher secondary education from Dhaka College. He completed his MBBS from Mymensingh Medical College in 2005 and entered into the Government service through BCS in 2010. He completed the Master of Surgery (MS) in Neurosurgery from Bangabandhu Sheikh Mujib Medical University (BSMMU) Dhaka in 2016. He worked with legendary Professor of Bangladesh: Professor Rashid Uddin Ahmed, Professor Kanak Kanti Barua, Professor Sk Sader Hossain. Now he is working as a Consultant Neurosurgeon in the department of Clinical Neurosurgery at the National Institute of Neurosciences and Hospital, Dhaka, Bangladesh.

e: dr.md.arifreza@gmail.com

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## Correlation between Ferritin serum and Glasgow outcome at discharge scale on patients with Intracerebral Hemorrhage who underwent Surgical treatment

**Elric Brahm Malelak**

Padjadjaran University, Indonesia

**Introduction:** Spontaneous Intracerebral Hemorrhage (ICH) is a vascular lesion with high prevalence and devastating outcome, especially related to morbidity. Heterogeneity of ICH case caused by various factors pose problems, one of which is predicting the outcome. Serum ferritin has shown to have a significant value in terms of predicting outcome in ICH patients.

**Method:** This is an analytic study with a prospective cohort design. We analyzed the Glasgow Outcome Discharge Scale (GODS) of patients with spontaneous intracerebral hemorrhages who underwent surgery and analyze its correlation with pre-operative serum ferritin value.

**Result:** Sixty subjects with spontaneous ICH who underwent surgical treatment was enrolled with a mean age of 54.50 years old. Twenty-nine patients (48.3%) assigned to poor GODS and 31 patients (51.7%) assigned to good

GODS. Mean value of serum ferritin in poor GODS group is  $342.75 \pm 336.019$  as for good GODS group the mean ferritin value is  $308.30 \pm 660.968$  with p-value  $> 0.05$ .

**Conclusion:** There is no significant difference between serum ferritin value and GODS score in patients with spontaneous ICH who underwent surgical treatment. Further study with larger and less diverse subjects is needed.

### Speaker Biography

Elric Brahm Malelak is a young neurosurgeon, who completed his study for Neurosurgery at Universitas Padjadjaran, Indonesia at the age of 32 years old. He had neurosurgery fellowship at JCHO Chukyo Hospital Japan. He had oral and poster presentation at several international conference in Indonesia and Japan. Now he is working at Kupang, East Nusa Tenggara, Indonesia as the only one neurosurgeon at the Province.

e: [elricnc@gmail.com](mailto:elricnc@gmail.com)

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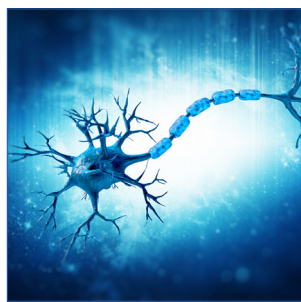


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# Young Researcher Forum

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## Does the truth lie within the gut? Investigating the gut microbiome in an Australian cohort of Parkinson's disease patients

Jade Kenna<sup>1,2,3</sup>, Sarah McGregor<sup>3</sup>, Malcolm Horne<sup>3,4</sup>, Alfred Tay<sup>5</sup>, Alexa Jefferson<sup>1</sup>, Souyma Ghosh<sup>1,2</sup>, Frank Mastaglia<sup>1,2</sup>, Megan Bakeberg<sup>1,2</sup>, Anastazja Gorecki<sup>1,2</sup>, Sue Walters<sup>1</sup>, Ryan Anderton<sup>1,2,5</sup>

<sup>1</sup>Perron Institute for Neurological and Translational Science, Australia

<sup>2</sup>University of Western Australia, Australia

<sup>3</sup>St Vincent's Hospital Melbourne, Australia

<sup>4</sup>University of Melbourne, Australia

<sup>5</sup>University of Notre Dame Australia, Australia

Parkinson's disease (PD) is associated with an assortment of difficult to recognize non-motor symptoms, including gastrointestinal (GI) dysfunction. Recently, there have been studies reporting the appearance of GI symptoms up to two decades prior to motor symptom onset in patients. To date, limited number of studies have reported an association between an altered microbiota composition and PD. Despite this emerging relationship, it remains to be seen if this association exists in Australian patients with PD. This study involved a multi-centre assessment and recruitment of 120 patients with diagnosed PD from St Vincent's Movement Disorders Clinic (Fitzroy, VIC), the Perron Institute Movement Disorders Clinic (Nedlands, WA). The Movement Disorders Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS) was used to determine disease severity, including motor and non-motor symptoms. Global cognitive function was measured using Addenbrooke's Cognitive Exam-Revised (ACE-R), and Scales for Outcomes in Parkinson's disease Assessment. In collaboration with the Marshall Centre (UWA, WA), this study aimed to determine if the gut microbial composition differed between PD patients and age-matched healthy controls using targeted sequencing of the V3 and V4 regions of 16S ribosomal RNA (rRNA) gene. Microbiome diversity, determined by operational taxonomic units (OTUs) and relative abundance were examined for an association with patient clinical assessment outcomes, using a multivariate regression analysis.

Our current results identified that both relative abundance

and diversity of microbial OTUs were significantly different in patients with PD when compared to healthy controls ( $p < 0.05$ ). Specifically, Verrucomicrobia and Gammaproteobacteria were both increased within PD. Within the patient cohort, reduced microbial diversity was significantly associated with elevated MDS-UPDRS III scores, and decreased quality of life. This project provides the first comprehensive characterisation of the microbial diversity and composition in an Australian cohort of PD patients. The preliminary findings from this study support previous results and show associations between microbial diversity and patient clinical outcomes, further exploring the gut-brain connection in the progression and management of this disease.

### Speaker Biography

Jade Kenna is currently in her second year of her PhD in Clinical Neuroscience through the Medical School at The University of Western Australia and The Perron Institute. Her PhD project is the first in Australia to investigate the role of the gut microbiome in a cohort of Parkinson's disease patients from multiple locations around Australia. She has experience presenting oral and poster presentations at national and international conferences. She has been working as a research assistant and laboratory demonstrator alongside completing her PhD and has received Letters from the University's Dean each semester for outstanding teaching performance every semester. In addition, she continues to volunteer for university events and charities, and assists in organizing and operation of many events, such as the inaugural Perron Institute Research Symposium.

e: jade.kenna@research.uwa.edu.au