Top Ten Publications

1. Dwivedi R, Ramanujam B, Chandra PS, Savita Sapra S, Sheffali Gulati S, Kalaivani M, Garg A, Bal CS, Tripathi M, Dwivedi SN, Sagar R, Sarkar C, & **Tripathi M** (corresponding author). *Surgery for Drug-Resistant Epilepsy in Children*. NEngl J Med 2017; 377:1639-1647. (Impact factor 91.245)

   In this single-center trial, children and adolescents with drug-resistant epilepsy who had undergone epilepsy surgery had a significantly higher rate of freedom from seizures and better scores with respect to behavior and quality of life than did those who continued medical therapy alone at 12 months. Surgery resulted in anticipated neurologic deficits related to the region of brain resection.

2. McEvoy RD, Antic NA, Heeley E, Luo Y, Ou Q, Zhang X, Mediano O, Chen R, Drager LF, Liu Z, Chen G, Du B, McArdle N, Mukherjee S, **Tripathi M**, Billot L, Li Q, Lorenzi-Filho G, Barbe F, Redline S, Wang J, Arima H, Neal B, White DP, Grunstein RR, Zhong N, Anderson CS. *CPAP for Prevention of Cardiovascular Events in Obstructive Sleep Apnea.* N Engl J Med. 2016 Sep 8;375(10):919-31. (Impact Factor 91.245)

   Obstructive sleep apnea is associated with an increased risk of cardiovascular events; whether treatment with continuous positive airway pressure (CPAP) prevents major cardiovascular events is uncertain. Therapy with CPAP plus usual care, as compared with usual care alone, did not prevent cardiovascular events in patients with moderate-to-severe obstructive sleep apnea and established cardiovascular disease.

3. Chandra PS, Singh PK, Goel V, Chauhan AK, Thakkur N, **Tripathi M**. *Early versus delayed endoscopic surgery for carpal tunnel syndrome: A prospective randomized study.* World Neurosurg. 2012;(25). pii: S1878-8750(12)00902-3 (Impact Factor 2.104)

   Following a course of conservative treatment, surgical treatment was offered in two groups: early surgery (n = 51; <1 week after diagnosis) and delayed surgery as per the usual waiting list (n = 49; >6 months after diagnosis). Improvement in both groups was significant. When both groups were compared, improvement was better for the early surgery group. On the basis of this study, early endoscopic surgery was proposed in patients with moderately severe CTS.

4. **Tripathi M**, Kaur K, Ramanujam B, Viswanathan V, Bharti K, Singh G, Singh V, Garg A, Bal CS, Tripathi M, Sharma MC, Pandey R, Dash D, Mandal P, Chandra PS. *Diagnostic added value of interictal magnetic source imaging in presurgical evaluation of persons with epilepsy: A prospective blinded study.* Eur J Neurol. 2021 Sep;28(9):2940-2951. doi: 10.1111/ene.14935. (Impact Factor 6.089)

   A total of 102 patients underwent epilepsy surgery. MEG provided nonredundant information, which contributed to deciding the course of surgery in 33% of the patients, and prevented intracranial recordings in 19%. A total of 76% of the patients underwent surgical resection in sublobes concordant with MSI localization, and the diagnostic odds ratio for good (Engel I) outcome in these patients was 2.3 (95% confidence interval 0.68, 7.86; p = 0.183) after long-term follow-up of 36 months. On the basis of the study, it was

observed that magnetic source imaging yields additional useful information which can significantly alter as well as improve the surgical strategy for persons with epilepsy.

5. Chandra PS, Doddamani R, Girishan S, Samala R, Agrawal M, Garg A, Ramanujam B, Tripathi M, Bal C, Nehra A, **Tripathi M.** *Robotic thermocoagulativehemispherotomy: concept, feasibility, outcomes, and safety of a new "bloodless" technique.* J NeurosurgPediatr. 2021 Apr 2:1-12. doi: 10.3171/2020.10.PEDS20673 (Impact Factor 2.375)

   The pathologies included Rasmussen's encephalitis (n = 2), hemispheric cortical dysplasia (n = 2), posttraumatic encephalomalacia (n = 1), and perinatal insult (n = 1). The mean ± SD (range) age was 6.7 ± 3.6 years (5 months to 10.2 years), and the right side was affected in 4 patients. The mean ± SD seizure frequency was 7.4 ± 5.6 seizures per day (1 patient had epilepsia partialis continua). The mean ± SD number of trajectories was 15.3 ± 2.5, and the mean ± SD number of lesions was 108 ± 25.8. The mean ± SD maximum numbers of trajectories and lesions required for middle disconnection were 7.1 ± 1.7 and 57.5 ± 18.4, respectively. All but 1 patient had class 1 outcomes according to the International League Against Epilepsy Outcome Scale at a mean ± SD (range) follow-up of 13.5 ± 1.6 (12-16) months; the remaining patient had a class 2 outcome. The estimated blood loss was < 5 ml for all patients. Complications included repeat surgery (after 2 weeks) for a "skip" area (n = 1) and a small temporal hematoma (n = 1), which resolved. On the basis of this study, it was concluded that ROTCH seems to be a safe, feasible, and bloodless procedure, with a very low morbidity rate and promising outcomes.

6. Mansi Verma, **Manjari Tripathi**, Ashima Nehra, AvanthiPaplikar, Feba Varghese, Suvarna Alladi, Jwala Narayanan, R. S. Dhaliwal, Meenakshi Sharma, AralikatteOnkarappa Saroja, Faheem Arshad, Gollahalli Divyaraj, Amitabha Ghosh, Tejaswini S. Manae, Shailaja Mekala, Ramshekhar N. Menon, Roopa Hooda, Gowri K. Iyer, J. Sunitha, Rajmohan Kandukuri, Subhash Kaul, Arfa Banu Khan, Robert Mathew, Ranita Nandi, M. V. Padma, Apoorva Pauranik, Subasree Ramakrishnan, Lekha Sarath, Urvashi Shah, P. N. Sylaja, Ravi Prasad Varma, Yeshaswini Vishwanath. *Validation of ICMR Neurocognitive Toolbox for Dementia in the Linguistically Diverse Context of India* Front Neurol. 2021; 12: 661269. (Impact Factor 4.003)

   A significant difference in the mean (median) performance scores between healthy controls and patients with dementia was observed on all tests of ICMR-NCTB. The area under the curve for majority of the tests included in the ICMR-NCTB ranged from 0.73 to 1.00, and the sensitivity and specificity of the ICMR-NCTB tests ranged from 70 to 100% and 70.7 to 100%, respectively, to identify dementia across all five languages. On the basis of the study was concluded that the ICMR-NCTB is a valid instrument to diagnose dementia across five Indian languages, with good diagnostic accuracy. The toolbox was effective in overcoming the challenge of linguistic diversity. The study has wide implications to address the problem of a high disease burden and low diagnostic rate of dementia in LMICs like India.

7. Mirpuri P, Chandra PP, Samala R, Agarwal M, Doddamani R, Kaur K, Ramanujan B, Chandra PS, **Tripathi M**. *The development and efficacy of a mobile phone application to improve medication adherence for persons with epilepsy in limited resource settings: A preliminary study*. Epilepsy Behav. 2021 Mar;116. (Impact Factor: 2.937)

In an intent-to-treat analysis, the mobile application interventional group showed over a 60% increase in the proportion of medication adherence ($P < 0.0001$). The mean self-efficacy score for the mobile application group was increased from 269.5 to 289.75 ($P < 0.0001$). The control group showed no statistically significant increases in either the proportion adherent or mean self-efficacy scores. This study demonstrated the statistically significant performance of a mobile application in improving medication adherence and self-management skills in Indian persons with epilepsy.

8. Jayakar P, Gaillard WD, **Tripathi M**, Libenson MH, Mathern GW, Cross JH; Task Force for Paediatric Epilepsy Surgery, Commission for Paediatrics, and the Diagnostic Commission of the International League Against Epilepsy. *Diagnostic test utilization in evaluation for resective epilepsy surgery in children.* Epilepsia. 2014 Apr;55(4):507-18. doi: 10.1111/epi.12544. Epub 2014 Feb 11. PMID: 24512473. (Impact Factor: 5.864)

   Advances in technology have aided presurgical evaluation and increased the number of possible candidates. Many of the tests employed are resource intense, and in specific cases they may be unhelpful or have adverse effects. Some standardization of the evaluation process is thus considered timely. Given the lack of class 1 or 2 evidence defining the relative utility of each test in specific clinicopathologic cohorts, a set of expert recommendations was attempted using consensus among members of the Pediatric Epilepsy Surgery Task Force of the International League Against Epilepsy (ILAE) Commissions of Pediatrics and Diagnostics These recommendations aim to limit fringe over or underutilization of use while retaining substantial flexibility in the use of various tests, in keeping with most standard practices at established pediatric epilepsy centers.

9. **Tripathi M**, Padhy UP, Vibha D, Bhatia R, Padma Srivastava MV, Singh MB, Prasad K, Chandra SP. *Predictors of refractory epilepsy in North India: A case-control study.* Seizure. 2011; 20 (10): 779-83. (Impact Factor: 3.184)

   This case-control study from August 2006 to December 2008 enrolled 200 consecutive patients of intractable epilepsy and 200 age matched controls with well controlled epilepsy. The factors which were significant in univariate analysis were age of onset before fourteen years (OR 7.92), partial seizures (OR 6.27), presence of neurological deficits (OR 19.68), perinatal insult (OR 11.00), delayed milestones (OR 13.93), history of CNS infection (OR 7.45), febrile seizures (4.33), high initial seizure frequency of more than one per month (OR 14.26), non response to first Anti Epileptic Drug (AED) (OR 6.71) and abnormal brain imaging (OR 20.47). On multivariate analysis significant predictors were radiological evidence of structural cerebral abnormality (OR 20.47), non response to first AED (OR 19.21), delayed mile stones (OR 9.09), high initial seizure frequency of more than one per month (OR 6.71), partial seizure type (OR 6.27), febrile seizures (OR 5.66) and age of onset before fourteen years (OR 3.09). It is thus possible to identify a certain profile of patients with epilepsy who are likely to be refractory to medical therapy. These observations would be useful in selecting patients early for evaluation in Northern India where a high surgical treatment gap exists.

10. **Tripathi M,** Garg A, Gaikwad S, Bal CS, Sarkar C, Prasad K, Dash HH, Sharma BS, Chandra PS. *"Intra-operative electrocorticography in lesional epilepsy".* Epilepsy Res.2010; 89 (1): 133-41. (Impact Factor: 3.045)

The study evaluated 157 cases (2000-2008). The preoperative evaluation also included ictal SPECT (122) and PET in 32 cases. All were lesional cases, 51% (81) of patients had >1 seizure/day and another 1/3rd (51) had >1/week. Pre and post resection ECoG was performed in all cases. A total of 372 recordings were performed in 157 cases. Second post-operative recordings (42) and third post-operative recordings (16) were also performed. Site of recordings included lateral temporal (61), frontal (39), parietal (37), hippocampal (16) and occipital (4). 129/157 cases (82%) showing improvement on ECoG, 30/42 cases showed improvement in 2nd post resection, 8/16 showed improvement in the 3rd post-operative ECoG. 116/157 (73%) patients had good outcome (Engel I and II) at follow up (12-94 months, mean 18.2 months). Of these, 104 patients (80%) showed improvement on post-operative ECoG. 12 had good outcome despite no improvement on ECoG. The improvement in ECoG correlated significantly with clinical improvement [Sensitivity: 100% (95% CI; 96-100%); specificity: 68.3% (95% CI; 51.8-81.4%); positive predictive value: 89.9% (95% CI, 83.1-94.3%); negative predictive value: 100% (95% CI, 85-100%)]. The level of agreement was 91.72% (kappa: 0.76). Concluding, pre and post resection ECoG correlated with its grade of severity and clinical outcome.