Thanks for tuning in and welcome to the podcast for the Association of Indian Neurologists in America (AINA).

I am Vishal Shah a member of the Resident and Fellow section at the AINA.

For our inaugural podcast we are joined today by distinguished faculty from the prestigious All India Institute of Medical Sciences (AIIMS) at New Delhi, India.

Allow me to introduce Dr Manjari Tripathi, who is a professor of neurology and Dr Sarat Chandra, a professor of neurosurgery who is the leader for the prestigious center for excellence in epilepsy and MEG center at AIIMS.

Dr Tripathi and Dr Chandra are leading clinicians and researchers who have spent years taking care of patients with neurologic afflictions in India especially in the field of epilepsy.

They are well published in international journals of repute and today we will discuss the most recent work that was published in the New England Journal of Medicine in October 2017 – ‘Surgery for Drug Resistant Epilepsy in Children’.

Shah - Welcome Dr Tripathi / Dr Chandra and thank you for taking out the time to speak to us today.

1. Dr Tripathi– Welcome and thank you for the opportunity of this communication.

Shah – First of all I would like to congratulate you and your team on your latest publication in NEJM.

1. Dr Chandra – Thanks

Shah – Certainly an interesting and an important topic. We all know that epilepsy in children can have devastating and long term challenges for patients and families alike. What was your inspiration behind this study ?

1. Dr Tripathi – Well, there is a big delay before children are brought in for evaluation of drug resistant seizures. Seizures in kids can be misleading and non-focal, and impact the vulnerable developing brain. The fact that they are resistant to anticonvulsants needs them to be considered for a possibility of a surgical control of their seizures. The delay has catastrophic consequences due to uncontrolled seizures and their continuing unpredictability. Also developmental delays occurs in these kids. These children loose vital years which sets them back and raises cognitive and psychological limitations.

Shah – Absolutely true, such a crucial topic highlighted by there by Dr Tripathi and goes in tune with the most updated definition of epilepsy suggested by ILAE which counts seizures as well includes effect of disease on cognitive, psychological and social consequences arising out of this condition. Dr Chandra, I had the pleasure of reading the study. Can you please highlight for our viewers, the salient features of this study?

1. Dr Chandra – The primary outcome of our study was seizure freedom, 77% of the patients assigned to surgery were seizure-free, compared to 7% of those assigned to medical management. This was prevalent across board, irrespective of the type of surgery performed. As in at the 12-month follow-up visit, all 14 of the children who underwent temporal lobectomy, and all six who underwent hypothalamic hamartoma surgery, were seizure-free. Eleven of the 12 children (92%) who underwent extratemporal resections, and 13 of 15 (87%) who underwent hemispherotomy, were likewise free of seizures at the 12-month mark. As expected, however, none of the 10 children who underwent a corpus callosotomy were seizure-free. The Secondary outcomes that were studied were impact on intelligence quotient, social quotient, child behavior outcomes and pediatric quality of life which all favored surgery. Significant between-group differences were seen in the change from baseline to 12 months in favor of surgery even on the Hague Seizure Severity scale (difference, 19.4; 95% confidence interval [CI], 15.8 to 23.1; P<0.001).

Shah – Some important observations I made in your paper were the striking results in terms of psychological outcomes and quality of life. Can you discuss more on this?

1. Dr Tripathi –Yes, psychological outcomes improved as seen on the Child Behavior Checklist (difference, 13.1; 95% CI, 10.7 to 15.6; P<0.001), on the Pediatric Quality of Life Inventory (difference, 21.9; 95% CI, 16.4 to 27.6; P<0.001), and on the Vineland Social Maturity Scale (difference, 4.7; 95% CI, 0.4 to 9.1; P = 0.03). To check for changes in IQ, the Binet–Kamat test was administered to 63 patients (30 in the surgery group and 33 in the medical-therapy group). The reduction from baseline in the mean (±SD) intelligence quotient was not significant in the surgery group (−1.3±6.5, P = 0.29) but was significant in the medical therapy group (−3.8±3.6, P<0.001). Even so, the between-group difference in change from baseline to 12 months was not significant (difference, 2.5; 95% CI, −0.1 to 5.1; P = 0.06).

Shah – When I came across your paper, I performed brief review of literature on similar topics. Can you educate our viewers if similar studies exist in western hemisphere? Are their findings any different?

1. Dr Chandra – Yes two landmark studies from the western hemisphere mainly that of Prof Wiebe’s published in NEJM and another of Prof Engel’s in JAMA are there. Both were in the adult drug resistant mesial temporal sclerosis population. They showed an early surgery did good for these patients.

Shah – Having the ability to perform such studies speaks for the volume of the work you perform in India. You have experience working both in the USA and in India. What are the challenges you face while discussing or convincing patients in India to undergo epilepsy surgery? How do you navigate them?

1. Dr Tripathi– In India, referrals for surgery are rather delayed. There are many who take alternate systems of medicine and general physicians and pediatricians keep trying one Anti Convulsant Drug (ACD) after another resulting in further delay. Sometimes kids are on 8 ACDs with adverse events to these . There are few centers performing pre-surgical evaluation and epilepsy surgery in India . In fact a waiting list of one year or more for surgery was one of the main reasons our ethics allowed us to do this study. Generating awareness at various forums like panels and conferences with medical professionals, also involving media and having a referral chain helps .

Shah – It is the era where clinical research provides evidence based guidelines. What are some of the challenges you face while performing research studies in India

1. Dr Tripathi – Research in India is to be done on personal time . It is extra from the hectic clinical work. It is done mostly at academic centers as ours at AIIMS. Having Phd programs help. Fantastic ideas are there with clinicians but funding crunch and implementation limit research.

Shah – Truly inspiring work. Collaborating with AIIMS is an exciting prospect. Residents and fellows, including me are eager to know if there are such opportunities for clinical / research collaboration between the two countries?

1. Dr Tripathi – Absolutely it is a must there is a lot to learn from the best of both worlds. This leads to better validity and confidence in the healing that we as doctors would want to do.

Shah – Thank you Dr Tripathi / Dr Chandra for taking valuable time to share this inspiring work with our listeners and for continuing to inspire all the residents and fellows.

Thank you everyone for listening to our podcast today. Stay tuned for similar updates from the Association of Indian Neurologists in America (AINA).