

IRIA Telangana e-Newsletter



Achievements

Page 06

The "Z"-Shaped Brainstem—A Tale of Two Distinct Gene Mutations

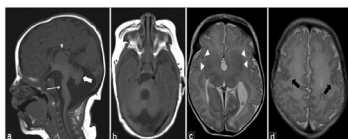


Figure 1: Sagittal T1 (a), axial T1 (b), and axial T2 (c, d) sections of MRI brain showing "Z"-shaped or linked brainstem (white arrow) which is hypoplastic, has partial midline cleft with asymmetrical focal bulges involving left hemispheres (black arrow), small and dysplastic cerebellum (white block arrow), fused basal ganglia structures with dysgenesis of anterior limbs of internal capsules ("beaked/dysgenetic ALIC sign", white arrowheads), diffuse bilateral peripolar polycystic degeneration (black block arrow) and hypoplastic corpus callosum (asterisk). Imaging findings are suggestive of tuberous sclerosis.

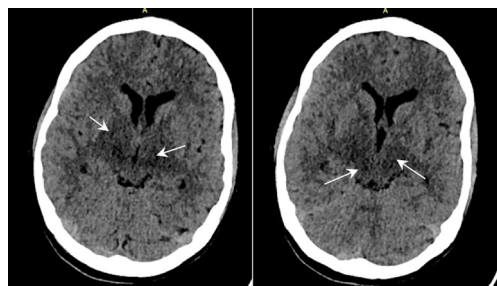
Publications

Page 09



Activities

Page 14



Interesting Cases

Page 18

Office Bearers:

President:	Dr. V.N. Goud
President Elect:	Dr. R. Venkataramana
Vice Presidents:	Dr. Tappani Ramesh Dr. J. Jagan Mohan Reddy
Secretary:	Dr. Pottala Krishna Mohan
Treasurer:	Dr. M. Anitha
Joint Secretaries:	Dr. Shirisha Jakka Dr. K. Sudheer

Indian Radiological & Imaging Association

Telangana State Chapter 2022

IRIA HOUSE, 101, First Floor, 8-2-675/1/A,
Hasna 13th Avenue, Plot No. 16, Road No. 13,
Banjara Hills, Hyderabad - 500 034.
Ph. No: 040-29803049,
Email: iriatschapter@gmail.com
Website: www.iriatelangana.org

President**Dr. G Venkat Nageshwar Goud**

9849081595, vngbala64@gmail.com

President Elect**Dr. R Venkataramana**

9246580984, randhivenk@yahoo.com

Vice Presidents**Dr. T Ramesh**

9866447788, rameshtippini@yahoo.co.in

Dr. J Jagan Mohan Reddy

9000192332, jaganmreddy@gmail.com

General Secretary**Dr. P Krishna Mohan**

9849320032, krishnapottala@gmail.com

Joint Secretaries**Dr. J Shirisha**

9701398484, shirisha.jakka@gmail.com

Dr. K Sudheer

9346021219, kunkusud@gmail.com

Treasurer**Dr. Anitha Mandava**

7702844822, dranitha96@gmail.com

Central Council Members**Dr. R Prabhakar Rao**

9100947018, prabhakar.ravuri@gmail.com

Dr. T L N Praveen

9949638959, tlnpraveen@googlemail.com

Dr. G B N T Raju

9246520078, gollapalliraju@gmail.com

Dr. P Vikas Reddy

9700000974, palle_vikas@yahoo.co.in

State Council Members**Dr. N L N Moorthy**

9866971825, moorthinln@rediffmail.com

Dr. Sunitha Lingareddy

9849044996, sunitha.lucid@gmail.com

Dr. M Jwala Srikala

9948156249, srikalajwala@gmail.com

Dr. Abhishek Arora

8712850395, dr.abhiarora@gmail.com

Dr. Chennamaneni Vikas

9963181428, vikas_ch_rao@yahoo.com

Dr. Aditya Sudarsan

9177017888, draditya.sudarsan@gmail.com

PC PNDDT Co-ordinator**Dr. Vivek Vardhan Reddy Keesara**

9923954984, keesaravivek@gmail.com

Student representatives**Dr. (Capt) G Harshavardhan Reddy**

9701851523, drharshambbs14@gmail.com

Dr. R Meghana Shiny

7674024784, megghanakmc@gmail.com

Trade Representative**Mr. K Ravinder Reddy**

9848145409, rrkandanelly@gmail.com

From the President's Desk**Dear Radiology Colleagues and Seniors,**

Best Wishes to all the Radiology members on the eve of release of new edition of the news letter.

Wish you all safe time in the monsoon season and also in the wake of seasonal fevers.

The news letter brings new ideas and inclusions by the team led by Dr. Jagan Mohan Reddy sir to encourage all the Radiologists. Hope you like the news letter and request you to suggest any new ideas.

Wish you all **Happy 75th Independence Day** and **Azadhi- Ka Amrith Mahotsav** Celebrations.

Long Live IRIA!

Thanks and regards

Dr. Venkat Nageshwar Goud

President, IRIA TS Chapter

From the General Secretary Desk



Dear esteemed members,

I am happy to inform you that we have successfully conducted three on-site monthly meetings. Students are actively participating in the programme and presenting interesting cases.

I request all the consultants to attend monthly meetings.

I congratulate Karimnagar Sub chapter for their installation of the executive committee.

HARP conference for post graduate students is scheduled to be conducted by **IRIA TS CHAPTER** on online platform in the month of August. Radiology anatomy course is scheduled in the month of September and I request all the post graduate students to utilise the opportunity.

Long live IRIA!

Regards,

Dr. Krishna Mohan Pottala

GENERAL SECRETARY IRIA TS CHAPTER

EDITORIAL BOARD

ADVISORS



Dr. K. Prabhakar Reddy



Dr. V.N. Goud



Dr. Krishna Mohan Pottala

EDITORIAL TEAM



Dr. J. Jagan Mohan Reddy
Editor-in-chief



Dr. Srinadh Boppana
Member



Dr. Annapurna S
Member



Dr. Sridhar Devu
Member



Dr. Nihal Reddy
Member



Dr. Sandeep M.
Member



Dr. N L N Moorthy
MD, DNB, FICR
Prof and HOD Radiology
Apollo Medical College

CHALLENGES OF RADIOLOGY TEACHER

Teaching is an art and more so with the specialty of radiology. The branch of radiology in medical science has rich tradition of having excellent teachers including Prof Kakarla Subba Rao, Prof PC Rajaram, Prof Arcot Gajraj, Prof Mukund Rahalkar to name a few. Their teachings have inspired many to practice radiology to perfection. It also helped us to comprehend text books like British authors, Massey & Meridith, Margulis, Taveras & Wood, Newton and Potts, Kazner easily. Almost in every class they make some references to the standard text book and also quote from latest issues of radiology journals. The postgraduate should refer to Review article, state of the technique, recent advances, updates from popular journals. Radiology clinics of north America, Radiology, British Journal of Radiology, American journal of Radiology was made available in all departmental libraries. Even during the annual national conferences there used to be parallel teaching sessions by the senior professors within the country and from abroad including Prof Resnick, Prof Benjamin Felson, Prof Chandrahasan Johnson which were overcrowded and very popular sessions. But of late we observe that there is slow disinterest among the radiology teachers presently. And one of the main reasons lies with the post graduate students to read standard latest edition text books prescribed. The visits to library is poor. All these are attributed due to wide spread of Knowledge in the form of E books, Radiopedia, Wikipedia and also most of the journals and text books are available online. Referring from latest journals for recent advances and updates is necessary, however listening to a teacher who shares his experience is largely beneficial and makes reading simple. The student should not think that seminar presentation is simply copy and paste which is done without understanding the concepts. It is the responsibility of the present day radiology teachers to take inspiration from seniors and experienced in imparting the subject. The branch of radiology is evolving enormously and the teachers should try to keep update with recent advances. Newer methods of teaching has to be incorporated in the programme that include short group discussion, case reviews. The extent of exposure to different case studies is different in any medical college it is strongly advised to club the teaching schedule in various teaching institutes to one place in that zone which can be conducted by rotation there by the students are uniformly benefitted. This type of regional CME programmes were very successful in some universities.

ACHIEVEMENTS

Congratulations



Dr. Sikandar Shaik
DMRD, DNB, MNAMS, FICR
Consultant PET-CT & Radiology
Yashoda Hospitals, Hyderabad

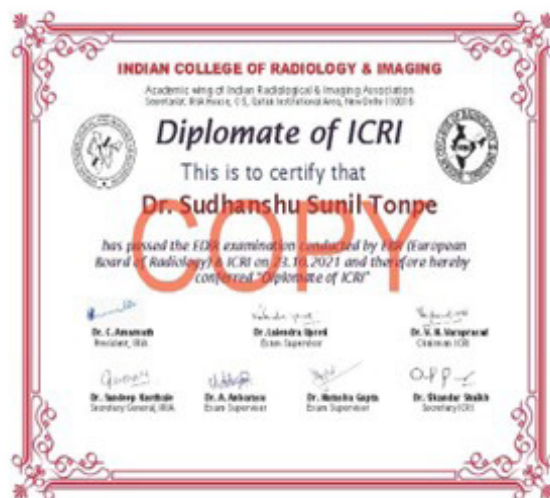
Dear Sikander Shaik,

On behalf of Scott Reeder, our incoming ISMRM President for 2022-23, we invite you to continue to participate on the following committee for 2022-23.

ISMRM Education Committee

Congratulations

Dr. Sudhanshu Sunil Tonpe



Congratulations

Dr. Anurudh Kishore Vitta
Assistant Professor of Radiology
Apollo Institute of Medical Sciences

POSTER WINNERS

**TITLE: PICTORAL ASSAY OF
CNS INTRAVENTRICULAR
NEOPLASMS AND MIMICS.**

AUTHOR: Dr Anurudh Kishore Vatti

Designation: Assistant Professor of radiology

Co-author: Prof.Dr NLN Moorthy

Institution: Apollo institute of medical sciences and
research,Jubilee hills,Hyderabad.



2. Tanya Sharma
MMIMSR, Mulana, Ambala

**ULTRASOUND -MRI FUSION GUIDED
MUSCLE BIOPSY IN DIAGNOSIS OF
MYOPATHIES**

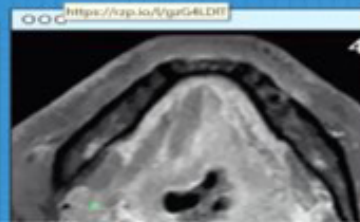
3. Anoop VB
Department of Radiodiagnosis,
Government medical college,
Kozhikode, Kerala, India.

**Puzzling breast lumps in
teenagers- Rhabdomyosarcoma
with breast metastasis**

Congratulations

Dr. Meghana Shiny
2nd Year Resident
Osmania Medical College

Online CME | 23-24 April 2022
**ONCOIMAGING
UPDATE 2022**
Masterclass Series



TOPIC :ROLE OF IMAGING IN PEDIATRIC EMBRYONAL TUMORS

Main author : DR R MEGHANA SHINY

(2ND YEAR POSTGRADUATE)

Co-author :DR VIJAYA KUMARI (HOD :OSMANIA MEDICAL COLLEGE)

INSTITUTION :OSMANIA MEDICAL COLLEGE



Congratulations

Dr. Sohini Gandham

Resident, Apollo Institute of Medical Sciences and Research



A RARE CENTRAL NERVOUS SYSTEM MANIFESTATION IN A CASE OF SYSTEMIC LUPUS ERYTHEMATOSUS

DR SOHINI GANDHAM & DR N L N MOORTHY

APOLLO INSTITUTE OF MEDICAL SCIENCES AND RESEARCH, HYDERABAD, INDIA- 500096



Congratulations

Dr. K Sravya, Dr. Meghana & Dr. A K Sumaya Quiz Winners in IRIA Monthly Meeting



PUBLICATIONS



Dr. Ankit Balani

DMRD, DNB, Consultant Radiologist, Vijaya Diagnostic Centre

The "Z"-Shaped Brainstem—A Tale of Two Distinct Gene Mutations

Dear Sir,

The Z-shaped brainstem has been commonly associated and described with congenital muscular dystrophy. We read with a great deal of interest, the manuscript titled "Z-shaped brainstem and other magnetic resonance imaging findings in congenital muscular dystrophy" by DM Cecil *et al.* in the May–June 2016 issue of *Neurology India*, Volume 64, Issue 3.^[1] The manuscript is intelligently written with self-explanatory images describing imaging findings of congenital muscular dystrophy, in particular, Z-shaped brainstem which refers to hypoplastic pons with the small ventral notch.

Sir, we would, hereby, like to make a pertinent contribution based on our recent experience of two patients with two different genetic mutations and, hence, different diagnoses with similar morphology of brainstem, thus, emphasizing that Z-shaped brainstem is not an entity exclusively reserved for congenital muscular dystrophy.

A female child was born to non-consanguineous parents by spontaneous vaginal delivery at term with meconium-stained liquor. In view of poor respiratory effort and bradycardia, she was resuscitated and put on ventilatory support immediately after birth. She had an episode of generalized tonic-clonic seizure on day 1 of life which was controlled with phenobarbitone. Neurological examination showed reduced muscle tone without muscle weakness. Deep tendon reflexes were present in all four limbs, however, were difficult to elicit. Biochemical evaluation including whole blood count, very-long-chain fatty acids, creatinine kinase, cholesterol, serum calcium, magnesium, phosphate, liver function test, and biotinidase was normal.

Magnetic resonance imaging (MRI) done on day 7 of life in view of perinatal hypoxia showed "Z"-shaped or kinked brainstem which was hypoplastic, had partial midline cleft

and asymmetrical focal bulges involving the right side of the medulla oblongata and left hemipons. Cerebellum was small and dysplastic. Also, there were fused basal ganglia structures with dysgenesis of anterior limbs of internal capsules ("absent/dysgenetic ALIC sign"), diffuse bilateral perisylvian dysgyria-polymicrogyria and hypoplastic corpus callosum [Figure 1]. Imaging findings were suggestive of a likely diagnosis of tubulinopathy.

The differentials included dystroglycanopathies, however, in view of the hypoplastic corpus callosum, absent/dysgenetic anterior limbs of internal capsules, normal creatine kinase and normal electromyography, they were unlikely. Genetic testing was offered in view of suspicion of tubulinopathies which confirmed heterozygous mutation in the *TUBA1A* gene (c.691A>C).

Tubulinopathies, which are associated with mutations in the tubulin genes, represent a spectrum of complex brain malformations characterized by multiple cortical and subcortical abnormalities of the corpus callosum, brainstem, basal ganglia, internal capsules, and white matter.^[2,3]

Our second case is that of a male child who was diagnosed to have ventriculomegaly on antenatal ultrasound. He was born to non-consanguineous parents by emergency cesarean section at 38 weeks 6 days due to non-progression of labor. His APGAR scores were 5 at 1 min and 6 at 5 min. Neurological examination showed that he had at least antigravity strength in all joints of all limbs and a normal tone with no pyramidal signs. Deep tendon reflexes were present with no clonus and no abnormal posturing. His breathing pattern was regular and normal. MRI done on day 3 of life showed markedly hypoplastic pons with small ventral cleft giving "Z"-shaped appearance to the brainstem, cobblestone cortical malformation in bilateral frontal and perisylvian regions, hypoplastic cerebellum with few microcysts, absence of the septum pellucidum, and hypoplastic

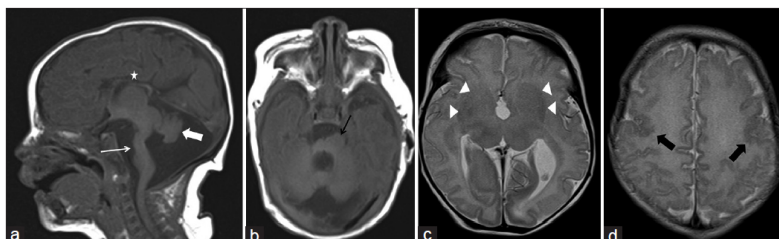


Figure 1: Sagittal T1 (a), axial T1 (b), and axial T2 (c, d) sections of MRI brain showing "Z"-shaped or kinked brainstem (white arrow) which is hypoplastic, has partial midline cleft with asymmetrical focal bulges involving left hemipons (black arrow), small and dysplastic cerebellum (white block arrow), fused basal ganglia structures with dysgenesis of anterior limbs of internal capsules ("absent/dysgenetic ALIC sign," white arrowheads), diffuse bilateral perisylvian polymicrogyria (black block arrows) and hypoplastic corpus callosum (asterisk). Imaging findings are suggestive of tubulinopathy

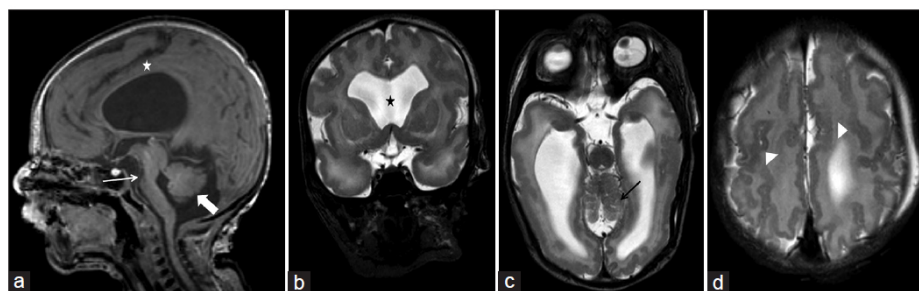


Figure 2: Sagittal T1 (a), coronal (b) and axial (c, d) T2 sections of MRI showing markedly hypoplastic pons with small ventral cleft giving “Z”-shaped appearance to brainstem (white arrow), hypoplastic corpus callosum (white asterisk), absence of the septum pellucidum (black asterisk), hypoplastic cerebellum (white block arrow) with few microcysts (black arrow) and cobblestone lissencephaly in bilateral frontal and perisylvian regions (white arrowheads). The imaging findings are suggestive of a diagnosis of an alpha dystroglycanopathy

corpus callosum [Figure 2]. The imaging findings suggested a diagnosis of an alpha dystroglycanopathy. Ophthalmological examination showed bilateral microphthalmia (corneal diameters of 8 mm), bilateral central vitreoretinal dysplasia and bilateral persistent fetal vasculature. The aforementioned findings pointed toward the diagnosis of Walker-Warburg/muscle-eye brain disease. Genetic testing revealed a homozygous mutation in the *POMGnT1* gene with c.303delinsCTp. (Glu102Ter) pathogenic sequence variant, thus, confirming the diagnosis of Walker-Warburg syndrome.

Thus, we present a tale of two distinct genetic mutations of *TUBA1A* and *POMGnT1* genes, responsible for different pathologies, that is, tubulinopathy and dystroglycanopathy in two children with a common imaging finding of “Z”-shaped or kinked brainstem.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Cecil DM, Chaturvedi A, Kapoor D. Z-shaped brainstem and other magnetic resonance imaging findings in congenital muscular dystrophy. *Neurol India* 2016;64:577-8.
2. Bahi-Buisson N, Poirier K, Fourniol F, Saillour Y, Valence S, Lebrun N, *et al.* The wide spectrum of tubulinopathies: What are the key features for the diagnosis? *Brain* 2014;137:1676-700.
3. Goncalves FG, Freddi TA, Taranath A, Lakshmanan R, Goetti R, Feltrin FS, *et al.* Tubulinopathies. *Top Magn Reson Imaging* 2018;27:395-408.

Chinky Chatur, Ankit Balani¹, Kshitij Mankad

Department of Paediatric Neuroradiology, Great Ormond Street Hospital for Children, London, ¹Lysholm Department of Neuroradiology, The National Hospital for Neurology and Neurosurgery, UCLH Foundation Trust, London, UK

Address for correspondence:

Dr. Ankit Balani,
Lysholm Department of Neuroradiology, The National Hospital for Neurology and Neurosurgery, UCLH Foundation Trust, London, UK.
E-mail: drankitbalani@gmail.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Website: www.neurologyindia.com	Quick Response Code
DOI: 10.4103/0028-3886.344603	

How to cite this article: Chatur C, Balani A, Mankad K. The “Z”-Shaped Brainstem—A Tale of Two Distinct Gene Mutations. *Neurol India* 2022;70:794-5.

Submitted: 28-Dec-2019 Revised: 15-Jan-2020
Accepted: 09-Feb-2020 Published: 03-May-2022

© 2022 Neurology India, Neurological Society of India | Published by Wolters Kluwer - Medknow



Dr. Ananta Ram
Head of Department
Radiology
KIMS Hospital

Utilization of newer MRI sequences in the Neuro Radiology

1) Functional anatomy sequences:

Fast Gray Matter Acquisition T1 Inversion Recovery (FGATIR) is used for better delineation of Deep Brain Stimulation (DBS) targets such as thalamus, striatum, Globus Pallidus, and Substantia Nigra (SNr). Deep brain stimulation target for Parkinsons disease include the subthalamic nucleus (STN) or globus pallidus internus (GPi). DBS target for essential tremor is ventrointermediate (VIM) nucleus of the thalamus. GPi is also a DBS target for dystonia.

Modifying the inversion pre-pulse from a 90° saturation pulse to a full 180° inversion pulse increases the T1 contrast range. Inversion time (TI) ~400 ms in order to nullify the white matter signal. Short inversion time led to the contrast inversion of some regions relative to standard T1-normally dark cerebrospinal fluid (CSF) signal becomes bright. The echo time (TE) and other parameters were set such that the TI was the dominant weighting factor in the contrast. This sequence is also used to study cranial nerve nuclei.

2) Brodmann neuroanatomical map - Brodmann neuroanatomical map is essential for understanding structural-functional correlation of neuroimaging data. Co activation of areas 5 and 7 –superior parietal cortex (Medial wall of intraparietal sulcus, Superior parietal lobule, Precuneus and Posterior portion of paracentral lobule) in processing of complex visual information and memory.

3) Advances in Functional MRI and Diffusion Tractography:

The use of task-based fMRI for localization of motor areas in the pre-surgical setting is well established, with high sensitivity and specificity.

Diffusion tractography with DTI to detect motor pathways has been validated with intraoperative direct subcortical electrical stimulation (DSCE). The integration of both techniques to produce a map of eloquent areas and their relationship with brain lesions is currently used for surgical planning.

Brodmann model is limited in explaining more complex neurological functions. Preserving cortical regions as well as the connections, or white matter fiber bundles, of core regions in the brain is the new paradigm.

Eloquent areas in the language domain:

Language White Matter Tracts and its Presumed Connections should be preserved during surgery. Damage to arcuate fasciculus and inferior frontooccipital fasciculus key components of the dorsal and ventral language pathways, respectively can result in permanent language deficits. For language, a dorsal stream is involved in mapping sound to articulation (phonology), and a ventral stream in mapping sound to meaning (semantic). The anatomical-functional organization of the visual system, requires that sensory input interfaces with motor systems for visually guided reaching and grasping (dorsal “how” stream) and with conceptual systems for object recognition (ventral “what” stream).

Current imaging shift from Broca areas to multimodal brain mapping of functional networks and the human brain project or Human Connectome Project. The

entire set of complex connections that make up the human brain is known as the brain's connectome. Connectomics is the big data approach to constructing and analyzing a computer-generated map of the brain's functional and structural connections.

The Networks include the tractography (created from e.g. constrained spherical deconvolution-CSD algorithm) and the functional areas (parcels) for specific patient, taking into account the given pathology (created from Structural Connectivity Atlas).

Concept changed from functional areas to network

Core networks

Default Mode (Medial frontoparietal)

Salience (Midcingulo-Insular)

Attention (Dorsal frontoparietal)

Control (Lateral frontoparietal)- central executive (or executive control) network (CEN) and the cognitive control network

Sensorimotor or Somatomotor (Pericentral), Visual (Occipital)

Salience network-Responsible for switch between CEN and default networks

4) Arterial spin labelling (ASL)

Water is used as a freely diffusible intrinsic tracer.

Arterial blood outside the imaging section is labelled by an inversion pulse.

After a transit time from the labelling region to the imaging section, blood spins exchange with tissue water at the capillaries. ASL is helpful in patients with renal insufficiency and pediatric populations.

5) Vessel wall imaging in intracranial vasculopathies

Traditional methods limitations:

Conventional digital subtraction angiography (DSA) or non-invasive (MR angiography, CT angiography) luminal imaging findings of arterial stenoses are often non-specific for disease etiology.

luminal imaging has limited ability to detect abnormalities in patients with non-stenotic disease.

Intracranial VW-MR Imaging

1. To differentiate among intracranial atherosclerotic plaque, vasculitis, reversible cerebral vasoconstriction syndrome, arterial dissection, and other causes of intracranial arterial narrowing.
2. Identify symptomatic, nonstenotic disease of intracranial arteries.
3. To assess atherosclerotic plaque activity, vasculitis activity.
4. biopsy in suspected CNS vasculitis
5. Identify ruptured aneurysm acute subarachnoid hemorrhage and multiple aneurysm

TECHNICAL ASPECTS OF VWI:

3D variable refocusing flip angle (VRFA) sequences (VISTA, Philips Healthcare; SPACE, Siemens; CUBE, GE) studied 3D techniques. VRFA used with T1 and proton density (PD) weightings, both before and after contrast administration.

When 2D -blood suppression techniques, using axial and coronal imaging better evaluate lesion morphology and effects on lumen.

Black blood imaging-signal from flowing blood and fat is suppressed. MRA-bright blood imaging.

Intracranial atherosclerotic plaques first expand outward before causing luminal narrowing, and thus nonstenotic plaques are underestimated or missed on luminal imaging techniques.

ICAD plaques with positive remodeling (outward wall growth) are more likely to be symptomatic and pose a higher risk for downstream microemboli compared with atherosclerotic disease with negative remodeling (vessel wall thinning/shrinking). **Wall thickening pattern**- when present, was classified into concentric and eccentric. When the thickening was circumferential and uniform, it was labeled as concentric, and focal or less uniform thickening as eccentric.

Location of plaque in eccentric plaque, Signal intensity of plaque, Remodelling pattern

Wall enhancement pattern - Intracranial plaque enhancement was classified into 3 grades. grade 0, no enhancement grade 1, enhancement less than pituitary infundibulum grade 2, enhancement equal to or greater than the pituitary infundibulum.

VWI FINDINGS	ICAD	VASCULITIS	RCVS	MOYAMOYA
Wall thickening pattern	Eccentric	Concentric	Concentric	Concentric
Juxta luminal T2 hyper intensity	Present	Absent	Absent	Absent
Wall enhancement	Eccentric	Concentric Intense	Absent	Concentric/Absent
Remodelling of outer wall	Positive / Negative	-	-	Negative
Follow up	-	Persists > 3 months	Resolves within 3 months	-

6) Image-fusion Techniques:

Fused images derived from 3D Constructive Interference in Steady-state (CISS) / fast imaging employing steady-state acquisition (3D-FIESTA),

and 3D Time of Flight MR angiogram images are Superior in Detection of Possible Offending Vessels over Conventional Imaging in assessment of neurovascular conflict.

ACADEMIC ACTIVITIES OF IRIA TELANGANA STATE CHAPTER

We started on-site monthly meetings from the month of April and till now we conducted three on-site meetings.

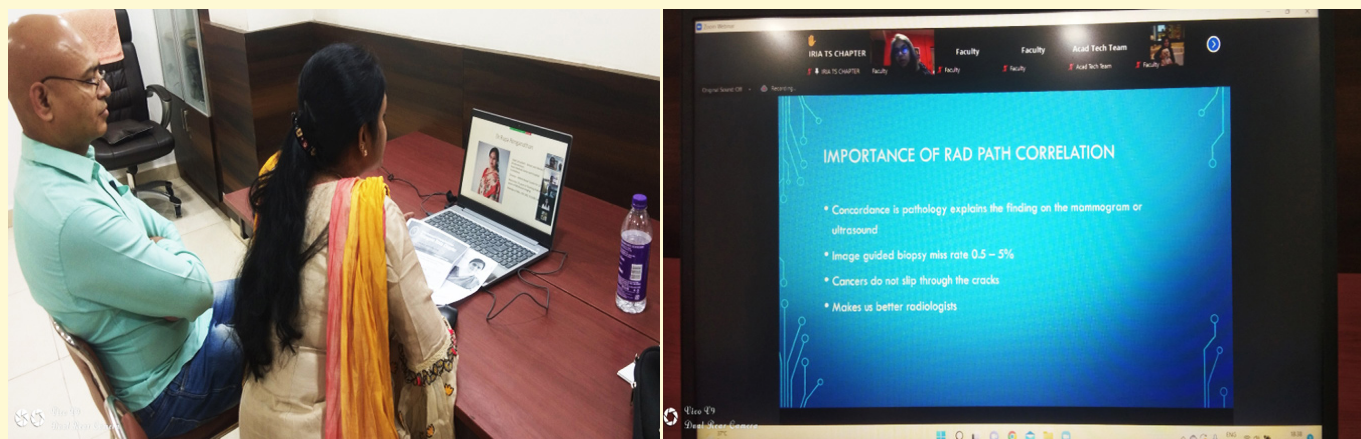


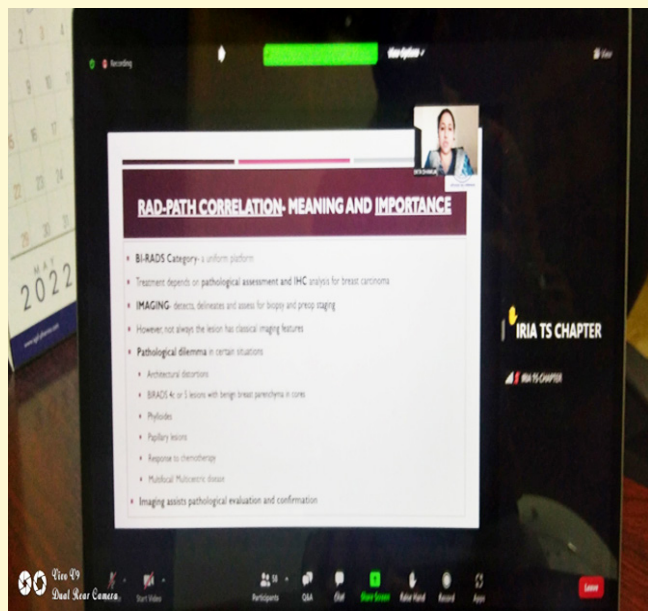
April monthly meeting was sponsored by Mindray and was organised at Hotel Mercure, Punjagutta and around 150 delegates attended the meeting. Dr. Srinadh Boppan, a Senior Radiologist delivered a talk on Unusual cases and Interventions in MSK practice. There was launch of new ultrasound machine by Mindray company. Dr. R.S. Murthy, Senior Radiologist and ex-professor of radiology was the chairperson for this month meeting. 10 students presented interesting cases and certificates are distributed to the students, guest speaker and chairperson.

Monthly meeting in May was sponsored by Vijaya Diagnostics Centre and was organised in the Hotel Marigold, Ameerpet. Dr. Y. Jyotsna Rani, Head of the Department of Radiology from Nizam's Institute of Medical Sciences was the chairperson for this meeting. Dr. Deepak B, Consultant Radiologist from Vijaya Diagnostics Center presented a talk on Imaging Approach to a child with limp – common and uncommon conditions. Dr. Vijayanand Kelkeri Consultant radiologist from Vijaya Diagnostics center has conducted the quiz for the post graduates. Prizes are distributed to the winners of the quiz. 12 students have presented interesting cases. Certificates are distributed to the students, guest speaker, quiz master and chairperson. 150 delegates attended this monthly meeting.



In the month of May we organised a webinar on Breast imaging. Dr. Jwala Srikala was the coordinator for this webinar. Six distinguished faculty delivered talks.





In the month of June, we conducted monthly meeting in the Century Hospital, Banjara Hills. Dr. V.N. Goud and Dr. Shirisha Jakka coordinated with the management for the venue. Vivere Technologies had sponsored the dinner for this meeting. Dr. Veeraiah Koppula, Head of the Department of Radiology, Indo-American Cancer Hospital was the chairperson for this meeting. Dr. Tharani Putta delivered a talk on “Pancreas: Radiological anatomy and Pathologies”. Dr. Ravi Teja, Associate Professor from Niloufer Hospital conducted the quiz in this monthly meeting. Winner of the quiz are Dr. K Sravya, Dr. Meghana & Dr. A K Sumaya. Prizes are distributed to the quiz winners. 10 postgraduate students have presented interesting cases in this monthly meeting. Certificates are presented to the students, guest speaker, quiz master and chairperson. This monthly meeting was attended by 80 delegates.



Central council meeting was organised by the central IRIA at Indore during the Sono Summit On 9 July 2022. Dr. Rajesh Enagala, Dr. Sikandar Shaikh, Dr. Prabhakar Rao, Dr. Vikas Reddy and Dr. P. Krishna Mohan attended the meeting.



Karimnagar Sub chapter of IRIA was installed on 27 May 2022. Dr. V.N. Goud, President of IRIA Telangana State Chapter was the chief guest during this installation ceremony. Dr. P Krishna Mohan general secretary of IRIA TS CHAPTER was the guest speaker during this meeting. Dr. Ravi Kiran was elected as the President of this of Chapter and Dr. Naveen Kumar was elected as the General Secretary.



INTERESTING CASES

CASE REPORT:

A RARE CASE OF ACUTE NECROTISING HEMORRHAGIC ENCEPHALOMYELITIS IN A YOUNG ADULT

Dr. V.N.S. Madhavi Latha¹, Dr. Geethika Mandepudi², Dr. Sandeep Madineni³,
Dr. G.Rama Krishna Reddy⁴, Dr. K.Venkat Ram Reddy⁵

¹Resident, ²Assistant professor, ³Assistant professor, ⁴Professor, ⁵Professor and HOD,
Dept of Radiology SVS Medical College.



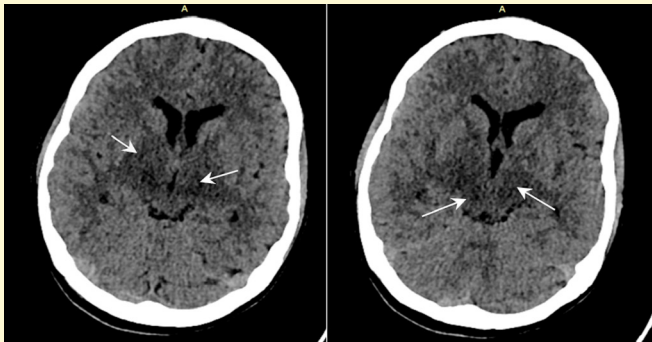
Dr. V.N.S. Madhavi Latha

Resident
SVS Medical College

A 16year old female presented to the emergency department (ED) with altered mental status.

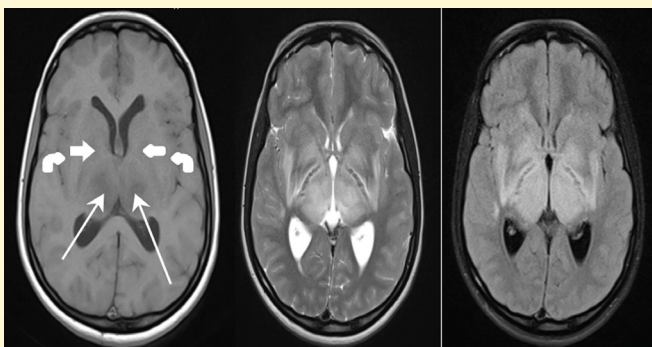
Her preceding symptoms were high grade fever, cold and cough for one day, and was treated with IV antibiotics.

NECT SCAN-



Nect Shows, Bilateral, Symmetrical, Swollen, Hypodense Thalami, Extending in to the Midbrain, Lentiform Nuclei and External Capsules.

MRI BRAIN WITH CONTRAST:

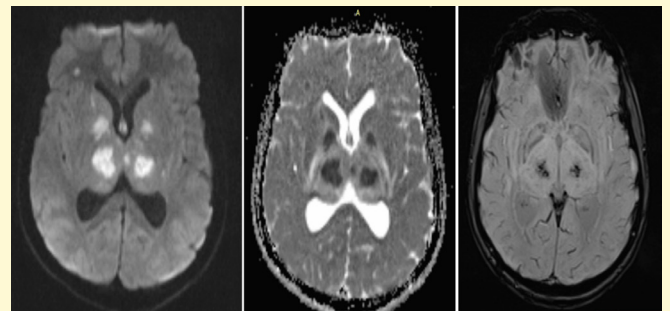


Plain Mri T1 Axial Images Show Symmetrical Hypointensities In The Bilateral Thalami (Thin Arrows), Lentiform Nuclei (Bold Arrows) and External Capsules (Bent Arrows).

She was tested negative for SARS CoV 2 and dengue.

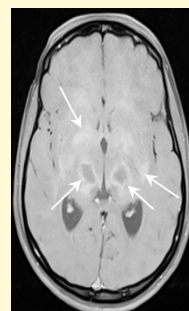
The patient was referred to the radiology department with clinical suspicion of encephalitis.

T2/T2 Flair Images Show Heterogenous Hyperintensities in The Corresponding areas.

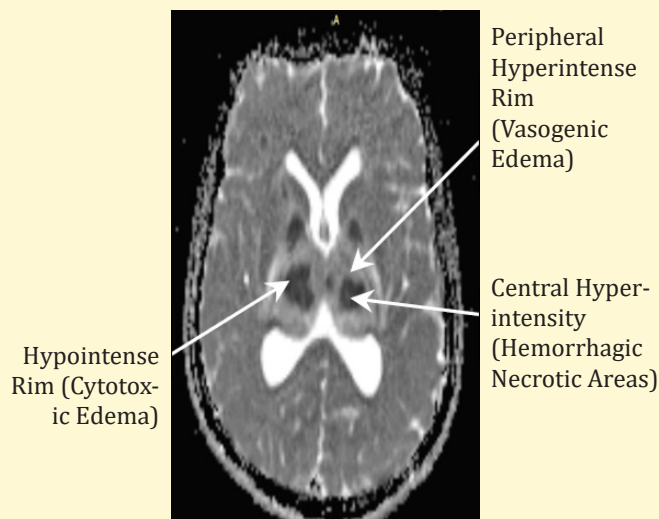


Diffusion Weighted Imaging (DWI), Apparent Diffusion Coefficient (ADC) Shows Restriction Diffusion In The Bilateral Thalami, Lentiform Nuclei And External Capsules.

Central Non Restricting Areas Correspond To Blooming On Susceptibility Weighted Imaging (Swi) Which Are In Keeping With Hemorrhagic Foci.



Post Contrast Axial Image Shows Peripheral Rim Enhancement Of Bilateral Thalamic Lesions.



DISCUSSION

The imaging features are suggestive of acute necrotising hemorrhagic encephalitis.

Acute Necrotizing Encephalopathy (ANE) is a rare, rapidly progressing neurologic disorder that occurs in children after common viral infections of the respiratory or gastrointestinal systems with poor prognosis.

Etiopathogenesis

VIRAL- Influenza A virus, mycoplasma, herpes simplex virus (HSV), and human herpes virus-6, SARS COV 2.

IMMUNE MEDIATED-Cytokine storm causes blood brain barrier damage that results in edema, congestion or hemorrhage and necrosis without any direct viral invasion

METABOLIC

GENETIC –RANBP2 MUTATION suspected when multiple family members are affected or if an individual has recurrent episodes.

CLINICAL FEATURES

Patients present following viral infection with acute severe neurological symptoms

Seizures & altered consciousness

Vomitings, hepatic dysfunction

Coma

Increased CSF proteins with absence of CSF pleocytosis.

It has fulminant course with 30% mortality rate and less than 10% of patients recovered completely

while the neurological sequelae were frequent in survivors.

IMAGING FEATURES

Multifocal, symmetric brain lesions involving bilateral thalami, posterior putamen, external capsule, brain stem tegmentum, cerebellum and cerebral white matter.

CT - Hypodense lesions

T1- Hypointense

T2 /FLAIR-Hyperintense or mixed

DWI – Restriction diffusion with central non restricting areas.

ADC - Trilaminar sign

SWI- Blooming suggestive of hemorrhage. These are seen in thalamic lesions but not in cerebral lesions

Post contrast-peripheral ring enhancement around necrotic areas

DIFFERENTIAL DIAGNOSIS

Reyes syndrome- associated with hypoglycemia, hyperammonemia and lactic acidosis

ADEM - asymmetric lesions and usually not associated with necrosis

Acute hemorrhagic leukoencephalitis – asymmetric lesions with perivascular distribution, and is associated with meningeal inflammation compared to ANE

Leigh syndrome - associated with hypoglycemia, hyperammonemia and, lactic acidosis

CONCLUSION

ANE is a rare, fulminant immune-mediated disease with incompletely recognized pathogenesis. It is underdiagnosed partially due to the insufficient awareness.

Its diagnosis is based on clinical and radiologic features, often after exclusion of other diseases.

REFERENCES

Xiujuan Wu, Wei Wu, Wei Pan, Limin Wu, Kangding Liu, Hong-Liang Zhang, "Acute Necrotizing Encephalopathy: An Underrecognized Clinoradiologic Disorder", Mediators of Inflammation, vol. 2015, Article ID 792578, 10 pages, 2015. <https://doi.org/10.1155/2015/792578>.

Mounisha Kethineni, Venkatesh Manchikanti, Sundeep NVK, "Acute necrotising encephalopathy of childhood- Trilaminar sign on MRI" , DOI: 10.15761/CMI.1000204

Grzonka P, Scholz MC, De Marchis GM, et al. Acute Hemorrhagic Leukoencephalitis: A Case and Systematic Review of the Literature. Front Neurol. 2020;11:899. Published 2020 Aug 20. doi:10.3389/fneur.2020.00899

Wang GF, Li W, Li K. Acute encephalopathy and encephalitis caused by influenza virus infection. Curr Opin Neurol. 2010 Jun;23(3):305-11. doi: 10.1097/wco.0b013e328338f6c9. PMID: 20455276.

Narra R, Mandapalli A, Kamaraju SK. Acute necrotizing encephalopathy in an adult. J Clin Imaging Sci. 2015;5:20. Published 2015 Apr 30. doi:10.4103/2156-7514.156117.



Dr. Sama varsha
Resident
SVS Medical College

CASE REPORT:

A CASE REPORT OF RIGHT FOOT MELANOMA WITH RIGHT INGUINAL LYMPH NODAL ,LIVER METASTASIS

¹Dr. Sama varsha, ²Dr. Sandeep Madineni, ³Dr. Subhash Reddy Doni,

⁴Dr. G. Ramakrishna Reddy, ⁵Dr. K. Venkat Ram Reddy

¹Resident, ²Assistant professor, ³Assistant Professor, ⁴Professor, ⁵Professor and HOD Dept of Radiodiagnosis SVS Medical College.

A 72 year old female presented with ulcer over heel of right foot since 3 months

IMAGING FINDINGS:



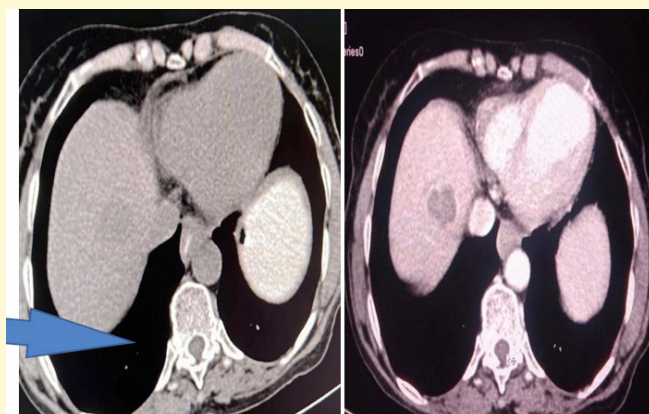
X ray right foot showing soft tissue swelling with breach in skin over heel.

Biopsy from the right heel was suggestive of primary cutaneous melanoma, FNAC of right inguinal node suggestive of melanotic metastasis .

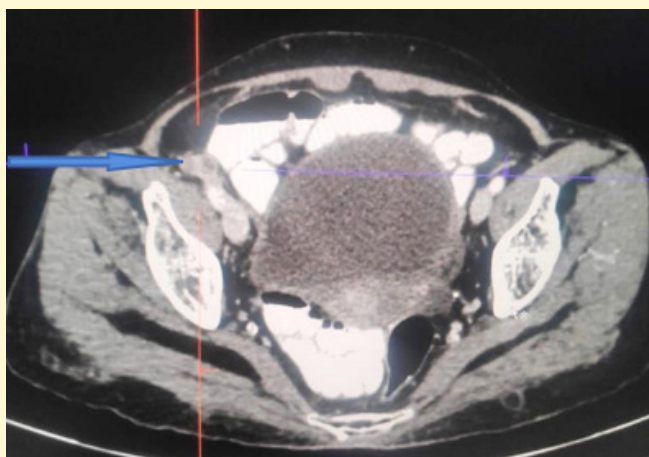
Discussion:

Melanoma is the most malignant tumor that develops as a result of malignant transformation of pigment cells—melanocytes located in various body tissues.

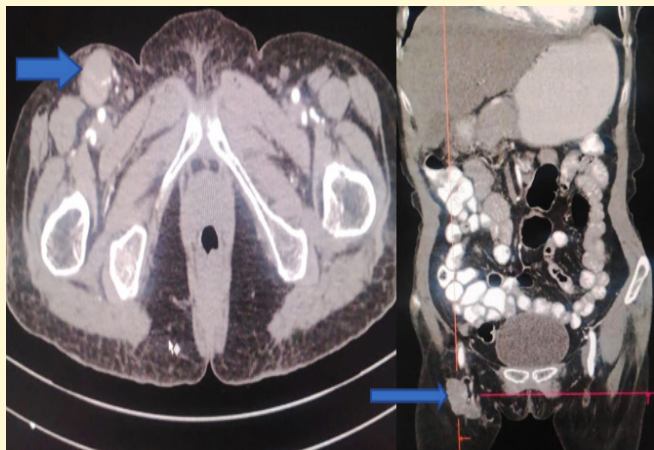
The incidence of melanoma in the world is more than 230,000 people annually.



CT plain axial section showing hypodense lesion in right lobe of liver with heterogeneously enhancing metastatic lesions.



Right heterogeneously enhancing external Illiac node.



Right enlarged and heterogeneously enhancing ulcerated inguinal node.

The risk of metastatic progression has a strong association with the site of the initial primary melanoma, with melanomas arising from the head, neck and trunk carrying a higher risk of metastatic progression than those melanomas arising from the limbs.

Whilst commonly diagnosed in individuals over the age of 60 years, a significant proportion of individuals diagnosed with melanoma are between the ages of 15-40 years.

Despite being one of the less common types of skin cancer, they cause the majority (75%) of skin cancer-related deaths.

Differentials:

Other Hyper vascular metastatic disease, lymphoma, leukaemia, kaposi sarcoma.

References:

1. Australian Institute of Health and Welfare Cancer in Australia 2017, Cancer series no.101, Cat. no. CAN 100. Canberra: AIHW; 2017. [Google Scholar]
2. Staging of Regional Nodes in AJCC Stage I and II Melanoma: 18FDG PET Imaging versus Sentinel Node Detection Tarik Belhocine et al., The Oncologist, 2002
3. Influence of the New AJCC Breast Cancer Staging System on Sentinel Lymph Node Positivity and False-Negative Rates David R. McCready et al., JNCI: Journal of the National Cancer Institute

UPCOMING CMES

1. **Monthly Meeting**
Every Month
2. **HARP**
07th & 14th August- 2022
3. **Webinar - Head and Neck Imaging**
28th August- 2022
4. **RAC**
September- 2022
5. **Webinar - Pediatric**
September- 2022
6. **State Annual Conference**
October- 2022
7. **Webinar - Emergency Radiology**
December- 2022
8. **Medical Camp**
January- 2023



IRIA Telangana State Chapter:
www.iriatelangana.org

IRIA Delhi State Chapter:
www.iria.org.in

ICRI (Indian College of Radiology and Imaging):
www.icri.co.in

AOSR (Asian Oceanian Society of Radiology):
<https://theaosr.org>

AMS (Asian Musculoskeletal Society):
www.asianmsk.org

CONGRATULATIONS FOR SUB CHAPTER OF IRIA IN KARIMNAGAR

Chief Guest

Dr. V Nageshwar Goud,

IRIA President Telangana State Chapter

Dr. P Krishna Mohan,

IRIA General Secretary Telangana State Chapter

IRIA Karimnagar Branch Office Bearers

President

Dr. P. Ram Kiran

Genral Secretary

Dr. S Naveen Kumar

Treasurer

Dr. B Venu Gopal Rao

Vice Presidents

Dr. Y V Ramana Reddy

Dr. Santhosh Babu

Dr. Deepthi Kiran

Joint Secretaries

Dr. V Santhosh Rao

Dr. Krishna Chaithanya

Executive Members

Dr. Ch Vikas

Dr. G Ravi kiran

Dr. Done Srinivas

Dr. Vishwanath Reddy

Dr. Narendhar Reddy

Dr. Sunil Reddy

Dr. Jayendra Thiru

Dr. S Ravinder

Dr. K Prashanthi

Dr. P Susmitha

Dr. Kanchan

Advisers

Dr. S Srinivas Rao

Dr. T Vamshi Mohan

Dr. M Naresh

