



Sri Ramakrishna
Hospital (MultiSpeciality)

pulse

Happenings at Sri Ramakrishna...



WORLD
STROKE
DAY 29TH
OCT



D Lakshminarayanawamy
Managing Trustee

We stand committed in constantly raising the bar to deliver best-in-class healthcare. We recognise the vital role that technology plays in delivering superior healthcare services and endeavor to be at the forefront in procuring the best equipments to give the best treatment for patients.

Every year, in the month of October, many unite for the awareness-raising efforts, focusing on Breast Cancer, and in the same month 29th is observed as 'World Stroke Day' in order to spread awareness on stroke related diseases.

It is observed in order to raise awareness of the signs of stroke and the need for timely access to quality stroke treatment which has also been fixed as the theme of this year.



Dr. S. Rajagopal
Medical Director

I want to emphasize the importance of breast cancer awareness. Breast cancer is a significant health concern that affects millions of women and even some men worldwide. Early detection and knowledge about this disease are crucial in improving outcomes and saving lives.

On this occasion of World Stroke Day, let us come together to raise awareness about stroke, a life-threatening medical emergency that affects millions of people worldwide. As a Medical Director, I am committed to ensuring that you have the knowledge to recognize the signs and symptoms of stroke, and the tools to take action promptly.

Educate your family, friends, and community about the importance of stroke awareness. Encourage them to learn the FAST acronym and share this knowledge. By spreading the word, we can collectively save lives.

Editorial Team

Dr.N.Loganathan
Pulmonologist

Dr.S.Prahadeeshwaran
Head - Public Relations

Mr.Murali Kaliappan
Head - Marketing

Sri Ramakrishna Hospital Conducts Awareness Drive and Launches Stroke Preventive Checkup For The Public To mark “World Stroke Day”

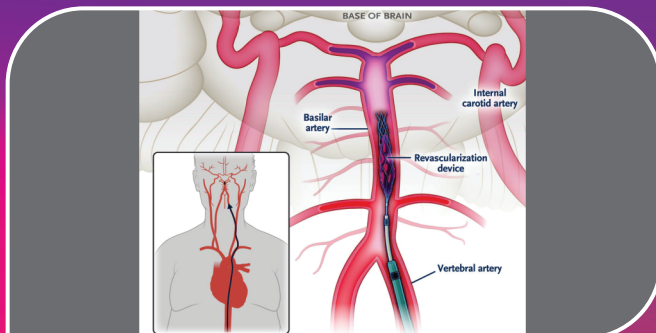
In connection with World Stroke Day, Sri Ramakrishna Hospital, Coimbatore organized “Stroke - The Facts You Should Know” - a valuable awareness session cum interaction for the public on Saturday at the hospital premises. C.V.Ramkumar, Chief Executive Officer, SNR Sons Charitable Trust, Dr.S.Rajagopal, Medical Director, Dr.S.Alagappan, Medical Superintendent, Sri Ramakrishna Hospital took part in the inaugural of the program. Chief Neurologist Dr.K.Asokan, Neurologist Dr.N.Vedhanayagam, Chief Neuro Surgeon Dr.R.Murali, Neuro and Minimally Invasive Brain and Spine Surgery Dr.M.Vikram and Neuro Vascular Interventional Radiologist Dr.P.Muthurajan explained the public about the causes, symptoms, impact, treatment of stroke and the ways to rehabilitate. More than 100 people attended the awareness program and got benefitted. At the occasion, Sri Ramakrishna Hospital also launched preventive-stroke care packages at an affordable cost for the public. The packages were aimed at providing preventive care for people under the age of 50 and above the age of 50, and the apt tests that would be required by these two sections of people.



Sri Ramakrishna Hospital Launches Coimbatore's First “ELCA - Philips Laser System” and “PLS - Excimer Laser System” To Revolutionize Cardiac Care.



Sri Ramakrishna Hospital has launched ELCA - Philips Laser system and PLS - Excimer Laser System into their advanced cardiac catheterisation lab marking a breakthrough in cardiovascular treatments. Sri Ramakrishna Hospital is the first healthcare facility to launch this advanced system outside Chennai Inaugurated by D.Lakshminaraswamy, managing trustee of SNR Sons Charitable trust and doctors from Department of Cardiology Dr. S. Manoharan, Dr. S. Balaji, Dr. T.A. Madheswaran, Dr. T.R. Nanda Kumar and Dr Vickram Vignesh. This system is a revolutionary design that helps in treating various conditions like heart attacks. Sri Ramakrishna Hospital has achieved another milestone in healthcare excellence by introducing the ELCA-Philips laser system and PLS - excimer laser system into their state-of-the-art cardiac catheter lab. This remarkable feat marks a significant breakthrough for Sri Ramakrishna Hospital as Coimbatore becomes the first city outside Chennai to house this pioneering coronary laser system.



LVO

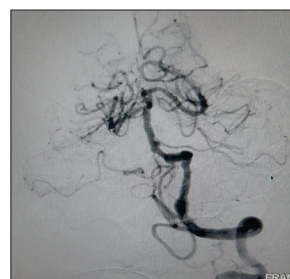
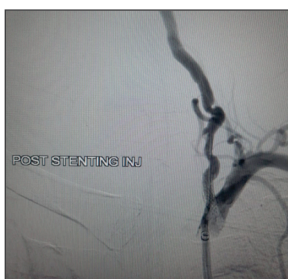
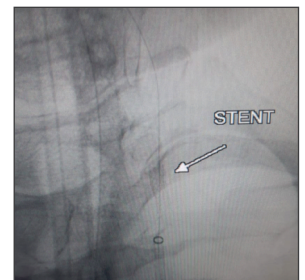
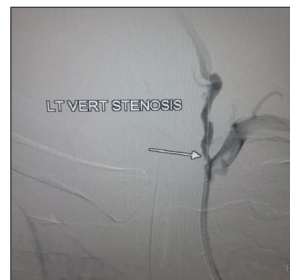
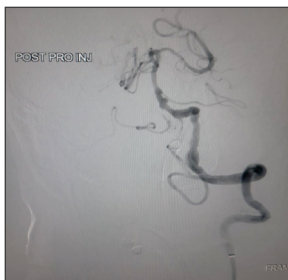
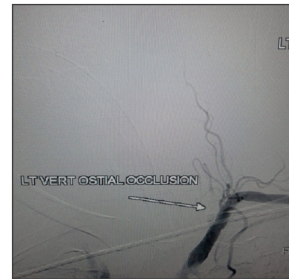
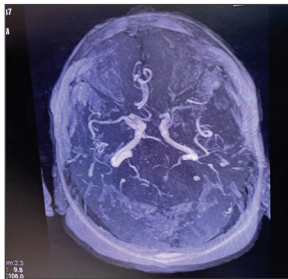
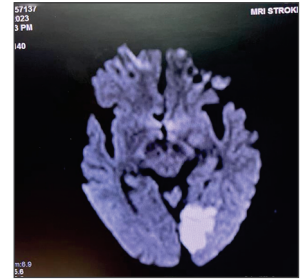
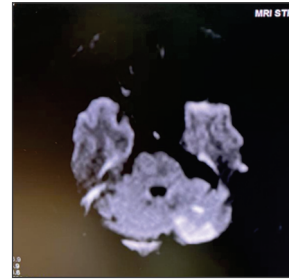
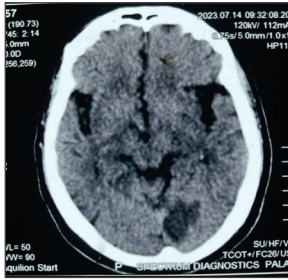
LVO – Basilar artery occlusion, Bilateral vertebral artery ostial stenosis. Associated MI, Ventricular tachycardia, Cardiac arrest revived

- Disease association (CVA + CAD) occurs in the same patient due to common pathology of atherosclerosis involving both cerebral and coronary vessels presenting with stroke and MI.
- We present one such case here
- 76 year old male sudden onset of Right Hemiparesis and slurred speech since 8 hours
- DM / SHT on treatment.
- Thrombolysed outside.
- Worsening of symptoms after reaching here
- CT Brain done outside – Lt. PCA infarct
- MRI done here – Hyperacute infarcts pons, cerebellum and Left occipital lobe
- MRA – Total occlusion of basilar artery
- Taken-up for MT. Cardiac status normal



Patient at admission

- DSA showed hypoplastic Right VA with critical ostial stenosis and Left VA occlusion
- Clots retrieved from basilar artery. Left vertebral ostial stenosis persistent, plasty done
- Post plasty 5 minutes check angio showed near total occlusion of Left Vertebral ostial, Stenting done
- 4th POD, he developed sudden vent. Tachycardia and Asystoly in ICU due to MI. Cardioverted. ECHO severe LV dysfunction. EF 30-35%.
- Slowly recovering. Weaned off the ventilator 10 days later.
- We could make him sit up in chair in another 10 days and stand with support followingly.
- mRS : 4 at discharge



10 days after thrombectomy



One month after thrombectomy

This case shows that disease association (CVA + CAD) may occur in the same patient which requires effective management of both the conditions Stroke and MI to save the patient

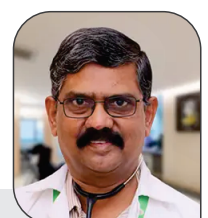
- Good outcome include
 - Stroke risk factors
 - Stroke Severity (NIHSS Score)
 - Age
 - Respiratory stability
 - Thrombus length
 - Atherosclerotic stenosis Vs Embolic occlusion
 - Collateral status

- All these factors are important and patient selection for EVT in BAO to minimize the incidence of futile recanalization
- Thank You

Dr.K.ASOKAN

MD, DM (Neuro), FCCP

HOD & Chief Neurologist





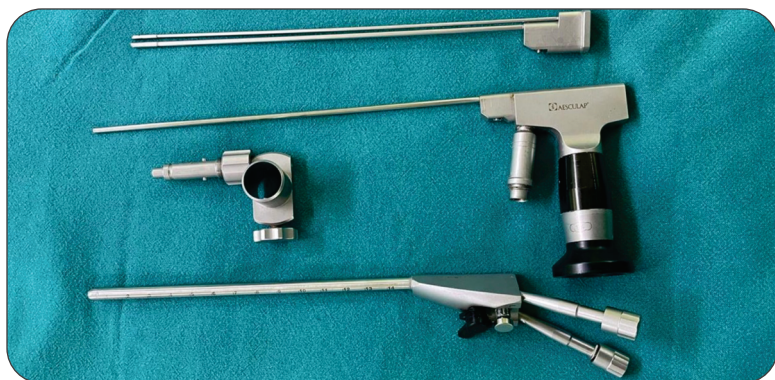
NEURO-ENDOSCOPY – A “NEW LOOK” INTO THE BRAIN

Neurosurgery has advanced in leaps and bounds in recent years and diseases that were considered untreatable a few decades ago are treated routinely with good outcome. In this ongoing evolution, a new modality of treatment of neurosurgical problems is the introduction or more accurately, re-introduction of the endoscope to treat neurosurgical problems.

What is it?

Neuroendoscopy is an exciting and rapidly evolving branch of neurosurgery that is opening up new vistas in the treatment of brain disorders. It involves insertion of an endoscope into the brain through a small opening (about 1.5 cm) made in the skull (burr hole) and performing brain surgery through this opening (minimally-invasive approach).

Evolution:



A modern Neuro-endoscope

The first neuroendoscopy was done in 1910 for hydrocephalus. It had very sparing use due to technological limitations. Over the years and especially in the last 2 decades, technology has improved tremendously enabling a variety of brain disorders to be treated endoscopically. The modern endoscope is a rigid rod about 6 mm in diameter and length of about 10 inches with a series of lenses that gives an excellent image. The light is

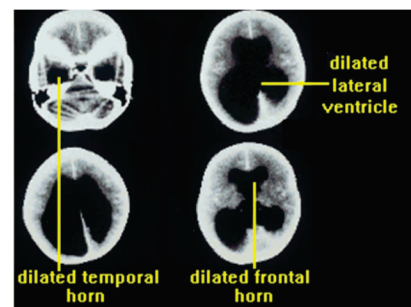
provided by a Xenon or halogen light source. The Neuroendoscope shown in the picture is a state of the art instrument which has 4 portals for suction, irrigation, light and operating instruments.

Where is Neuroendoscopy useful?

Neuroendoscopy is useful in the treatment of the following conditions:

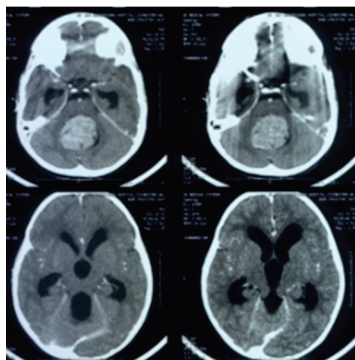
I. Hydrocephalus:

1. Congenital hydrocephalus (aqueduct- stenosis). This is the most common and widely-used indication for the endoscope. Normally, the brain secretes a water-like fluid called Cerebrospinal fluid (CSF) which circulates in and around the brain and is then drained out through the blood. Hydrocephalus is a condition of the brain where, due to blockage of the normal pathway, CSF accumulates in the spaces called Ventricles. Previously the standard treatment for hydrocephalus was to insert a silicone tube (Ventriculo-peritoneal or VP shunt) from the brain to the abdomen to drain the excess fluid in the brain. With the use of the endoscope, the block is bypassed by opening up an alternate pathway for the fluid to drain into a different area of the brain itself. It eliminates the use of a shunt thereby removing all the problems of a shunt i.e. blockage and infection which is a patient's (and surgeon's) nightmare. It can be done safely in children above the age of 9 months.



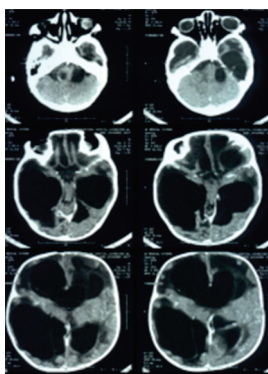
CT scan showing hydrocephalus (enlarged ventricles).

2. Obstructive hydrocephalus: due to a tumour.



CTscan showing a tumour producing hydrocephalus.

3. Loculated hydrocephalus



4. Other diseases of the brain that can be treated endoscopically are:

- Hematomas or blood clots
- Cysts or fluid collections in the brain.
- Tumors like Colloid Cysts, Pineal region tumours and Pituitary Adenomas.
- Abscess or pus collections.

Assisted procedures:

Neuroendoscopy is very useful as an adjunct in Microneurosurgical procedures especially in Cerebral aneurysm surgery to see if the clip is properly applied and avoid clipping small but important blood vessels (perforators) or other vessels situated behind the aneurysm on the far side of the surgeon.

Third Ventriculostomy: How is it done?

Under General anesthesia, a frontal burr hole is done and the dura is opened. The endoscope is inserted into the enlarged ventricle and then depending on the nature of the lesion the particular specific procedure is done.

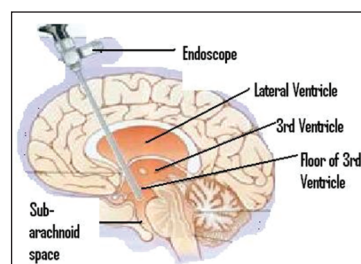


FIG 1. Drawing shows the endoscope in position for third ventriculostomy

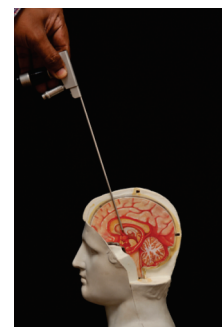


FIG 2. Shows the path of the endoscope in a head model

The most common procedure done is that of Third Ventriculostomy for Obstructive hydrocephalus where the block is by-passed to drain the ventricles.

Similarly, for posterior fossa ischemic strokes, bleeds or tumours, the need for shunting is also avoided. The introduction of this procedure adds a new dimension to the treatment of Neurosurgical problems and would greatly benefit patients in terms of cost, convenience and reduction of hospital stay.

In carefully chosen patients results are excellent.

Problems:

1. Bleeding has been a problem and therefore vascular tumours have been difficult to do.

2. Recurrence of hydrocephalus occurs in a small minority and then re-surgery or a VP shunt needs to be done.

This new field is rapidly evolving and newer indications are being found. As technology also improves with better instrumentation the endoscope will, no doubt, play a bigger role in the future.

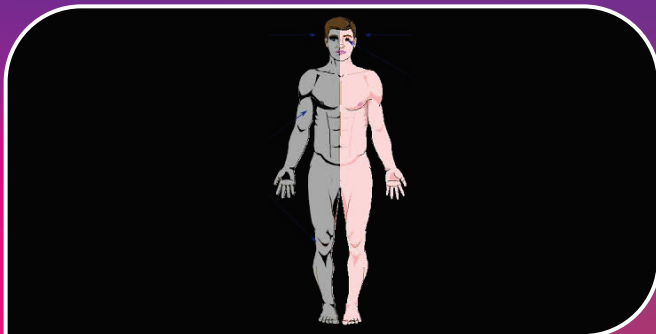
To conclude "Endoscopic surgery" is the treatment of choice for hydrocephalus in selected patients.

Dr.R.MURALI

MBBS., M.Ch.

Sr.Consultant Neuro Surgeon &
HOD - Neuro Surgery





Uses of Antithyroid Antibodies in Non Vascular Hemisensory Impairment

AIM: To find out the uses and correlation of antithyroid antibodies in patients with hemisensory impairment.

BACKGROUND: In day-to-day clinical practice, we have difficulties in managing patients with hemisensory impairment, where the diagnostic tests are not supporting clinical localization.

MATERIALS AND METHODS: All patients, aged 18 years and above came to the neurology department between February 2018 to August 2019 with either right or left persistent hemisensory impairment with or without facial involvement were included. After the clinical assessment, appropriate investigations (Complete blood counts, urea, creatinine, electrolytes, TSH, serum B12, ANA profile, pANCA, cANCA, neuro laboratory tests, carotid vertebral arterial doppler study, MRI brain with MR angiogram /MRI brain with contrast) was done to confirm the diagnosis or to treat accordingly. Patient with Acute stroke, demyelination, hemiplegic migraine and TIA were excluded. Rest of them advised to do serum antithyroid antibodies and psychiatric assessment. Patients with positive antithyroid antibodies were treated with prednisolone 1mg/kg/day for 6 weeks and reviewed. Psychiatric follow up was done in patients with negative antithyroid antibody reports. Uses and correlation of antithyroid antibodies were analyzed.

RESULTS: A total of 33 patients were studied. Among them 28(85%) were females, 5(15%) males and the mean age of presentation was 41.6 years. Out of 33 patients, 27(81%) have subjective feeling of sub-acute onset persistent tingling sensation or numbness or tightness or hypo/hyperesthesia or uneasiness on either side of the body with or without face involvement. Rest of 6 patients (19%), have numbness with feeling weak on one side with no demonstrable sensory motor deficit. Antithyroid antibodies (either ATG or ATPO antibodies) were positive in 21(57%) patients with hemisensory impairment. In this study, 28(85%) were in euthyroid, 9%(3 patients) hypothyroid and 2(6%) were in hyperthyroid groups. Antithyroid antibodies were positive in 61%, 66% and 100% respectively in their thyroid groups. None of our study patients have psychiatric illness or brain lesions on MRI study.

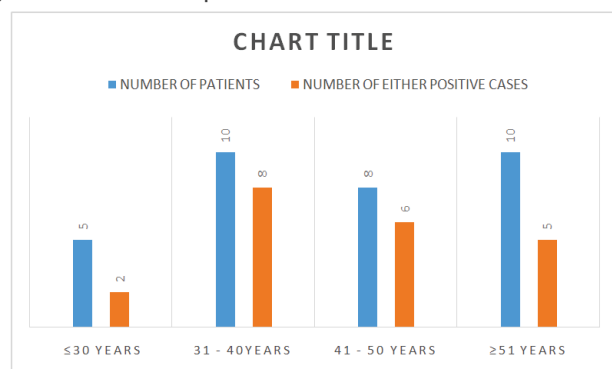
CONCLUSION: Autoimmune thyroiditis can present with new onset persistent hemisensory impairment in young adults which is more common in females. Both antithyroid antibodies are clinically useful in the diagnosis and management of non vascular hemisensory impairment. Hence, the strong clinical judgement not supported by the diagnostic tests might alert the physician to rule out autoimmune thyroiditis in neuroaxis.

KEY WORDS: Antithyroid antibodies (Antithyroglobulin and antithyroid peroxidase antibody), TSH (Thyroid Stimulating Hormone), ANA profile (Antinuclear antibodies profile), ANCA (Anti-neutrophil cytoplasmic antibodies), (TIA) Transient ischemic attacks, Neuroaxis

INTRODUCTION: The importance of the neurologic examination in the diagnosis of diseases of the nervous system cannot be over emphasized. Neurologic diagnosis is often considered difficult as most parts of the nervous system are inaccessible to direct examination, and its intricate organization and integrated functions are difficult to comprehend on superficial observation.[1] In day-to-day practice, we have difficulties in managing patients with hemisensory impairment, where the diagnostic tests are not supporting clinical localization. Hence, this study will help in such cases for early diagnosis and better management. The uniqueness of this study is, a rare presentation of autoimmune thyroiditis as hemisensory impairment and uses of antithyroid antibodies in such cases were discussed.

RESULTS: A total of 33 patients were studied. Among them 28(85%) were females, 5(15%) males and the mean age of presentation was 41.6 years. Antithyroid antibodies (either ATG or ATPO antibodies) were positive in 21(57%) patients with hemisensory impairment. Age distribution and their

antithyroid antibody positive status were as below. Barchart 1. Age distribution of 33 patients.



Out of 33 patients, 27 (81%) have subjective feeling of sub-acute onset persistent tingling sensation or numbness or tightness or hypo/hyperaesthesia or uneasiness on either side of the body with or without face involvement. Rest of 6 patients (19%) have numbness with feeling weak on one side with no demonstrable sensory motor deficit. None of our study patient have psychiatric illness or brain lesions on MRI (including DWI). In this study, 28 (85%) were in euthyroid, 9% (3 patients) hypothyroid and 2 (6%) were in hyperthyroid groups. Antithyroid antibodies were positive in 61%, 66% and 100% respectively in their thyroid groups (Table 2).

Thyroid Groups (Number of Patients)	Number of Antithyroid Antibody Positive Cases (%)
Euthyroid 85% (28 patients)	17 (61%)
Hypothyroid (3 patients)	2 (66%)
Hyperthyroid (2 patients)	2 (100%)
TOTAL (33 patients)	21 (57%)

Irrespective of the TSH level, antithyroid antibodies were positive in all three thyroid groups.

DISCUSSION: Hashimoto's thyroiditis is the most common autoimmune thyroid disease. More than adequate or excessive iodine intake may lead to autoimmune thyroiditis [2,3,4] by generating reactive oxygen intermediates, by increase in immunogenicity and by increasing the lymphocytic infiltration of the thyroid. [5] Neurological manifestations of the thyroid. [5] Neurological manifestations of Hashimoto's thyroiditis include generalized/focal seizures, status epilepticus, myoclonus, stroke, hyperreflexia, tremors, encephalopathy and psychiatric manifestations such as psychosis, visual hallucination, paranoid delusion, mania, depression, dementia, and catatonia [6,7]. In our study, 33 patients with hemisensory impairment, majority 28 (85%) were females and mean age of presentation is 41.6 years. Out of 33 patients, 27 (81%) have subjective feeling of sub-acute

onset persistent tingling sensation or numbness or tightness or hypo/hyperaesthesia or uneasiness on either side of the body with or without face involvement. Rest of 6 patients (19%) have numbness with feeling weak on one side with no demonstrable sensory motor deficits. Basic neurology teaching is, deficits in a hemi-distribution suggests either the cortex, subcortex or thalamic lesion: Crossed deficits, affecting the face on one side and the body on the opposite side - suggests brainstem disease. But none of 33 patient had brain lesions in MRI including diffusion weighted images (DWI). Irrespective to their thyroid status, 21 (57%) patients with positive antithyroid antibodies had dramatic response to oral steroids. Mechanism of antithyroid antibodies causing sensory deficits is not known. As per Chong Jy et al, the formation of auto antibodies against the thyroid gland, cross-reacts with the N-terminal of endothelial α -enolase (NAE) may cause autoimmune vasculitic infarct, is the possible mechanism causing the vasculitic type of Hashimoto's encephalopathy [6], but none of our study patient had encephalopathy. This is a new observation in association of antithyroid antibodies with non vascular hemisensory impairment. In future, we have a plan of doing PET scan to know the metabolic abnormalities in patients with hemisensory impairment. As per C Tol et al, a study on 34 patients with hemisensory syndrome, six patients (17.5%) had psychiatric illness [8]. However, no psychiatric illness were identified among 33 patients. Hence, autoimmune thyroiditis can present with persistent hemisensory impairment in neuroaxis, the strong clinical judgement not supported by the diagnostic tests might alert the physician to rule out autoimmune thyroiditis in neurology. In future, large samples including control groups will address the significance of this observational study.

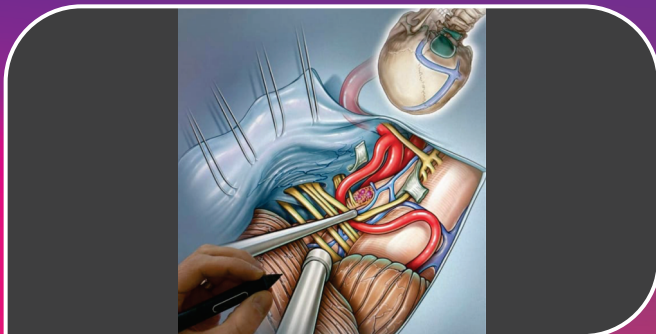
CONCLUSION: Autoimmune thyroiditis can present with new onset persistent hemisensory impairment in young adults which is more common in females. Both antithyroid antibodies are clinically useful in the diagnosis and management of non vascular hemisensory impairment. Hence, the strong clinical judgement not supported by the diagnostic tests might alert the physician to rule out autoimmune thyroiditis in the neuroaxis. In India, iodine supplementation should be targeted at iodine-deficient areas in order to reduce the prevalence of thyroid autoimmunity.

Dr. N. VEDHANAYAGAM

MBBS, DNB in General Medicine, DNB in Neurology

Consultant Neurologist





Surgery on Brainstem Lesions With Intraoperative Neuromonitoring

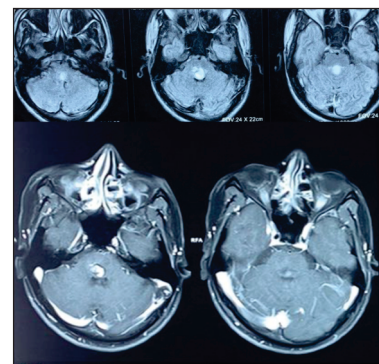
Being the complex structure in the brain connecting cortical information to the spinal cord, location for majority of cranial nerves nucleus and its origin, autonomic control of cardiac, blood pressure, reticular activating system, tone and basically the main control centre of existence, tumours or lesion of the brainstem poses a great challenge to the surgeons for recovering the patients without any new deficiencies and surviving them with better quality of life. Surgery for brainstem lesions are not common being a vital and very sensitive location of the brain, specific indications and location of the lesion do permit surgical intervention into the brainstem lesion with appropriate technology with gratifying outcomes.

Intra operative Neuro Monitoring, fluoresceine operating microscopy, appropriate positioning, dynamic retraction principles, neuro endoscopy and modern microsurgical instruments including appropriate bipolar helps in achieving this precisely.

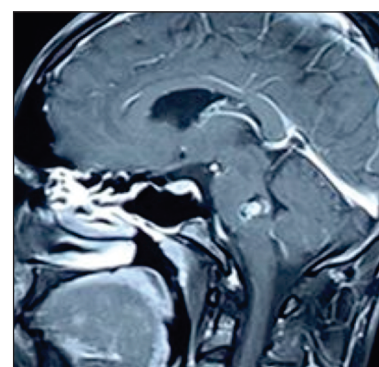
About six such lesions, three exophytic and three intrinsic brainstem lesions has been operated upon over here with all recovering to normalcy and leading normal life. The exophytic lesions happened to be pilocytic astrocytoma two from tectal plate, one from the posterior aspect of medulla oblongata. Of the three intrinsic lesions two were cavernomas of the brainstem and the other nonspecific lymphoid tissue which responded with steroid therapy following the excision in a child.

Case 1: A 20 years old adult came with vomiting, weakness of all 4 limbs, double vision. clinical examination revealed inter nuclear ophthalmoplegia, and quadriplegia. MRI features were suggestive of cavernoma with bleed presenting towards the 4th ventricular pial surface.

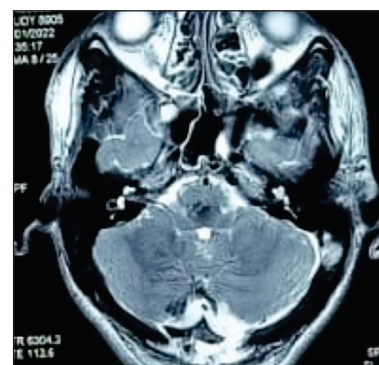
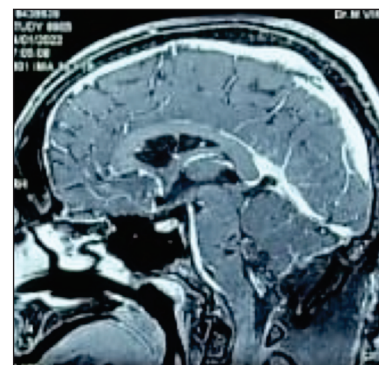
For the potential risk of rebleed causing catastrophic life risk, patient explained regarding the surgical need and underwent IONM assisted telovelar approach and total excision of the lesion. Patient recovered completely and is under periodic followup.



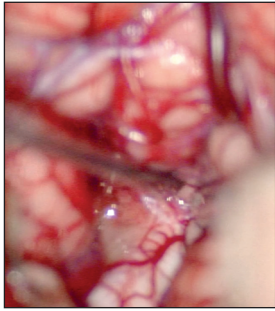
Pre OP



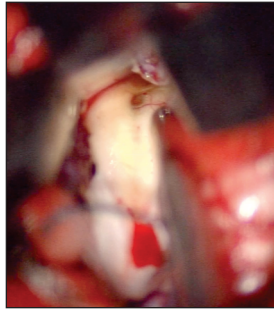
Post OP



Intra op images:



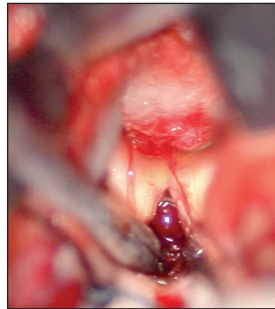
Opening of the foramen of magendie to reach lesion in brainstem



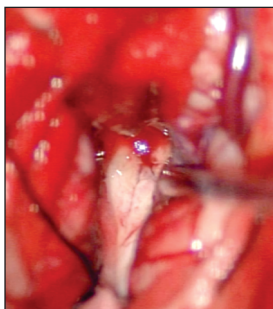
Locating the subpial cavernoma in the floor of the fourth ventricle



IONM monitoring for the lower cranial nerve nucleus location in the floor of the 4th ventricle around the lesion



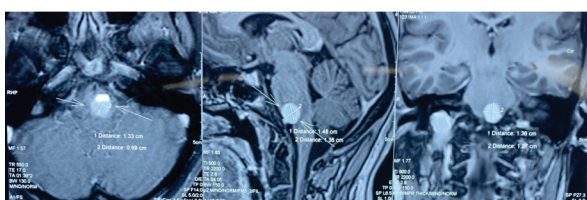
Excision of the cavernoma of the brainstem



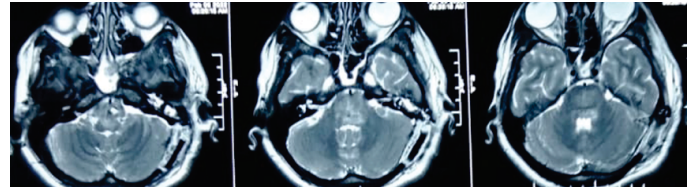
Post excision spontaneous closure of the midline pial incision between the lower cranial nerve nucleus.

Case2: A 30 year old lady came with facial weakness, numbness and progressive left sided weakness of limbs following an acute head ache MRI revealed a cavernoma in the medulla anterolaterally, lesion was approached by lateral medullary approach thro inferior cerebellar peduncle pial approach and excised totally with adequate precautions and IONM, patient recovered completely over few months and is on regular follow up and post op MRI revealed complete excision of the cavernoma.

Pre op MRI

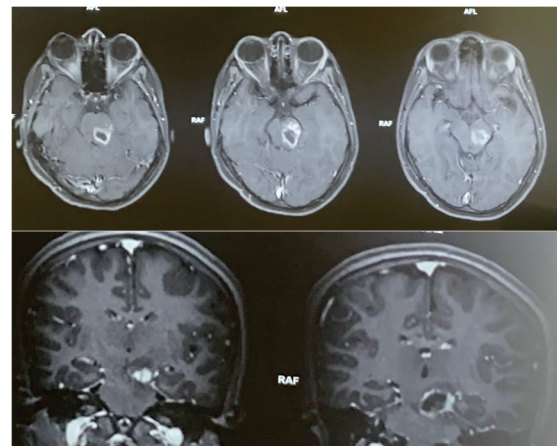


Post op MRI

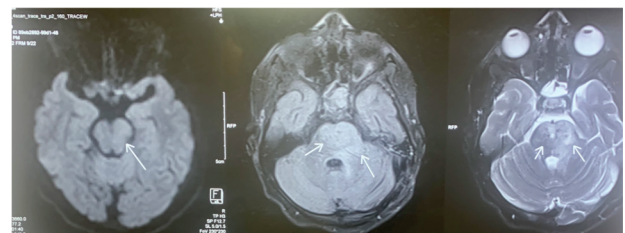


Case 3: A 12 year old school going child referred with progressive weakness of the right sided limbs gait disturbances and MRI revealed an intrinsic brainstem tecto peduncular lesion but couldn't have a clear provisional diagnosis based on MRI features. Child underwent retro mastoid craniotomy and trans superior cerebellar peduncle approach and excision of the lesion. The lesion was reported as lymphohistiocytic lesion with tissues being small quantity from the location the origin couldn't be confirmed. However, child improved with steroid therapy post op and had recovered to normalcy with follow up MRI revealing normal brainstem with minimal gliotic changes.

Pre MRI



Post MRI



Conclusion: Though being a vital neural structure, appropriate approach with appropriate technology and IONM for appropriate lesion brainstem lesion even can be excised safely and have good outcome.

Dr. VIKRAM MUTHUSUBRAMANIAN

M.B.B.S DNB (Neuro Surgery), MBA(HA)

Sr. Consultant Neuro Surgeon &
HOD - Minimally Invasive Brain & Spine Surgeon





Aquatic Treadmill

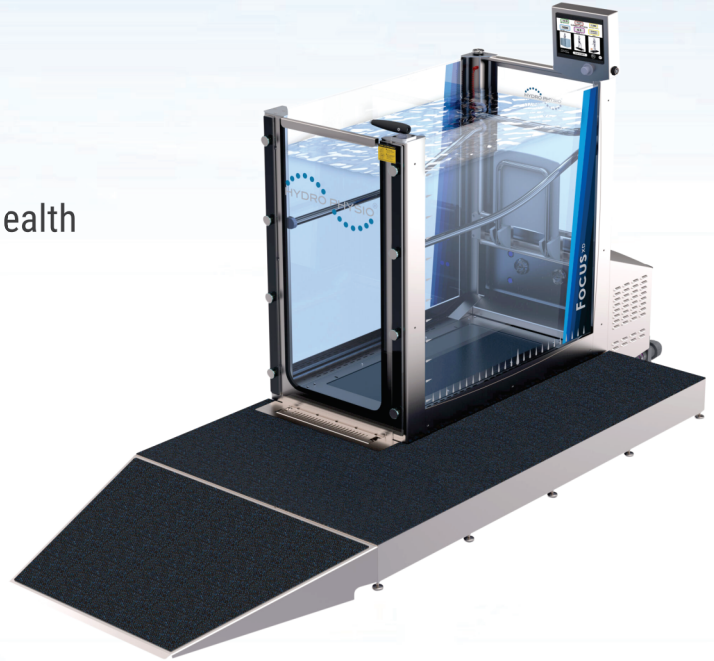
Aquatic Treadmill is a advanced equipment, first to be launched in Tamilnadu in the field of physiotherapy. It is the advanced exercise treatment offered as a part of hydrotherapy. Aquatic treadmill work by wearing a suitable equipment(conveyor belt) in a pool so that the patient can perform exercise opposed to the force of the water under the guidance of the therapist.

Benefits

- Boost Neuromuscular & Cardiovascular Health
- Builds strength and fitness
- Minimize risk of injury
- Initiate functional activity
- Enhance Relaxation

Population

- Pre & Post Operative Joint Replacement surgery [Hip, Knee]
- Osteoarthritis [Hip, Knee]
- Musculo skeletal Injuries in Lowerlimb
- Balance deficits
- Perceptual / Spatial problems
- Cerebral palsy
- Spinal cord Injury
- Rheumatological Condition[Arthritis]
- Ligament Injury in Lower Limb [sprain]
- Strain [Muscle Tear]
- Sport fitness & endurance
- Pre & Post pregnancy conditions



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