



inf+KEM

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Identification of Vitamin B12 Deficiency in Indian Vegetarians



Vitamin B12 is important in DNA synthesis and its role is mainly noticed in blood cells and nervous tissue cells.

Vitamin B12 deficiency is caused by

- **Dietary deficiency** - Chiefly in vegetarians, since B12 does not have a plant based source.
- **Auto immunity** - Anti parietal cell antibodies or anti intrinsic factor antibodies or both
- **Rare conditions** - Hypochlorhydria - B12 does not become free from salivary binder requiring low pH, malabsorption (Crohn's disease, celiac disease) and genetic deficiency of transporter-transcobalmin II

B12 deficiency can cause a variety of symptoms, including fatigue, headaches, depression, pale and yellow skin, pain and inflammation in the mouth and tongue; severe deficiency can cause anemia and neurological problems.

Problem

The proportion of humans adopting a plant-based lifestyle is on the rise worldwide. Benefits on economics, climate and health have been documented and projected to continue over the



next few decades. Apart from its sustainability, well-planned plant-based diets are nutritionally complete for human beings of all ages, with vitamin B12 being the only micronutrient not found in plants. Humans adhering to a plant-based lifestyle can obtain the vitamin B12 from foods fermented with bacteria that naturally produce vitamin B12, foods fortified with vitamin B12 and over-the-counter supplements. However, the high prevalence of vitamin B12 insufficiency in vegetarians across India suggests that food literacy programmes are not yet meeting the needs of the current dietary shift.

B12 deficiency is identified by measuring plasma vitamin B12, holotranscobalamin (Holo-TC), homocysteine (HCy) and methylmalonic acid (MMA). Plasma vitamin B12 alone is not a sensitive and specific indicator for the reliable diagnosis of vitamin B12 deficiency. Moreover, cutoffs are defined in B12 replete western populations. We (Naik et al) examined vitamin B12 status in a cohort of 119 young, healthy unsupplemented vegetarian Indian graduates. Using standard cut-off values for the assessment of vitamin B12 status we determined that 50 % were vitamin B12 deficient, 50–70 % exhibited low plasma holo-TC and 70–90 % presented elevated plasma total Hcy (tHcy). All participants in this study were asymptomatic of clinical vitamin B12 deficiency and hence are classified as sub-clinical vitamin B12 deficient subjects. We find similar situation in all geographical part of India.

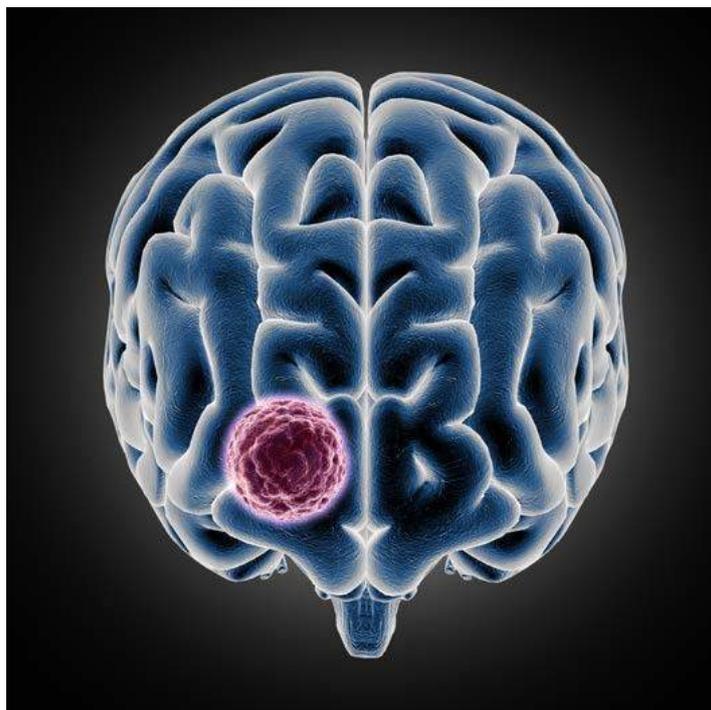
We propose (Naik et al, Brit J Nutr, 2013) the use of a combination of biomarkers and cut-off values of 100 and 19.6 pmol/l for plasma vitamin B12 and holo-TC, respectively, and values of tHcy of 17.6 and 27 μ mol/l for Indian vegetarian females and males, respectively.

Some special populations need extra caution. This includes the diabetic patients receiving metformin, the elderly and women in reproductive age attempting to conceive or who are pregnant. It is highly recommended that vegetarian and vegan women in reproductive age take a vitamin B12 supplement before conception as well as during pregnancy and breast-feeding to ensure sufficient supplies of the micro-nutrient to the baby. Vitamin B12 deficient subjects need to be provided high dose (5 mg/day) for 2 weeks and then maintain on daily intake of natural vitamin B12 (400 mL of milk/milk products) or 1.6 microgram of synthetic B12.



Dr. Sadanand Naik

HOD Endocrine & Biochemistry Laboratory



Brain Tumours

World Brain Tumour day is observed on 8th June every year since 2000. This day was first observed by German Brain Tumour Association (Deutsche Hirntumorhilfe e.V.). A non-profit organisation, it was started to raise public awareness and educate people about brain tumour.

A brain tumour is an abnormal mass of tissue in which cells grow and multiply seemingly unchecked by the mechanisms that control normal cells. Brain tumours are either Primary or Secondary. Primary brain tumours develop intracranially and originate from brain tissue or surrounding tissues. Secondary brain tumours are those that arise elsewhere in the body (such as the breast or lungs) and metastasize/ migrate to the brain, usually through the bloodstream.

Symptoms

Most patients with brain tumour present with one or more of the following symptoms like headache, projectile vomiting, weakness/paralysis of one or more limbs, loss of touch sensation, visual disturbances, loss of hearing, speech difficulties, imbalance while walking, memory disturbances, tiredness, confusion and difficulties in decision-making, personality, or behavior changes, seizures and in some cases unconsciousness.

Diagnosis

Brain tumours can be diagnosed with CT Scan and MRI. Different sequences of MRI show

more details about tumor nature, its extent and its vascularity. This helps to plan the surgical intervention. In KEM Hospital we import these same CT scan and MRI images through the Neuro-navigation system to help us to localise the tumour during surgery or for frameless stereotactic biopsy.

Treatment

Surgery is the main modality of treatment. Some practiced brain tumor surgery modalities we use are - microneurosurgery (with the use of microscope and micro instruments and ultrasonic aspirator), endoscopic neurosurgery and endoscopic skull base surgery (through Nose for pituitary surgery or CSF rhinorrhea).

Intraoperatively we use the neuronavigation system, Intraoperative Ultrasound, Fluorescence dye and all the advanced techniques available.

For eloquent area brain tumours, intraoperative neuromonitoring or awake craniotomy can be attempted.

In some patients Radiotherapy and chemotherapy may be needed.

Some other Facts about Brain tumour

- Brain tumours can occur at any age.
- The exact cause of brain tumour is not clear.
- The symptoms of brain tumour depend on their size, type, and location.
- The most common type of primary brain tumour among adults are -
- astrocytoma, meningioma, and oligodendroglioma.
- The most common type of primary brain tumours in children are medulloblastoma, grade I or II astrocytoma, (or glioma) ependymoma, and brain stem glioma.
- Family history and high dose X-rays are risk factors for brain tumour.

Prognosis

With advancements in the treatment of brain tumours, there is a significant improvement in the outcome of treatment in patients.



Dr. Sarang Rote

Associate Consultant, Neurosurgery



Dr. Almas Pathan

Adult Family Medicine Practice and Full Time Consultant Physician

Dr. Almas Pathan was born in Solapur and studied at the St Joseph School , Solapur. She completed her MBBS from Krishna Institute of Medical Sciences, Karad and Post Graduation and DNB (family medicine) from Jehangir Hospital, Pune . She is married and settled in Pune. She loves dancing and cooking, and enjoys travelling. Apart from being Consultant Physician in KEM, she is interested in and undergoing in 3 other areas - viz- Industrial Health, Clinical Research and Palliative Medicine. She manages home care for terminally ill palliative patients. She has also successfully completed 15 studies as Principal Investigator in clinical research and has also worked part time as physician at in Corporates in and around Pune .



DR. MAYURI SWAMY
MD- Pathology
as a Full time
Junior Consultant
Haematologist. She has
completed IA & QMS
Training programme as
per ISO.



**DR .BHAGYASHREE
PARMAR-PANDYA**
MD - Paediatrics
as a Junior Consultant
Paediatrician. She has
completed her PICU
Fellowship (CPCC)
at our hospital



EVENTS AND ACTIVITIES



DASII Workshop 30th May to 4th June 2022

The XIth Workshop on “Developmental Assessment Scales for Indian Infants (DASII) and Follow up of High Risk New borns and Neurodevelopment Assessment Tests” was held in the TDH Rehabilitation Centre and Morris Child Development Centre of KEM Hospital after a gap of three years due to COVID.

Although we held three online workshops during the lock down, we were not satisfied with the limited interaction it offered. This physical workshop, was also attended by Neonatologists, Paediatricians and Psychologists from all over India, and even Nepal made it more interesting. A large contingent was sent by the Kerala Government. Everyone appreciated the hands on training.

We are the only centre in the country where training for DASII is offered. The research for developing this test which is the gold standard for assessing motor and mental development of infants was pioneered by the well known Developmental Psychologist Dr. Pramila Phatak, in the early nineties and at the time working at our Centre.



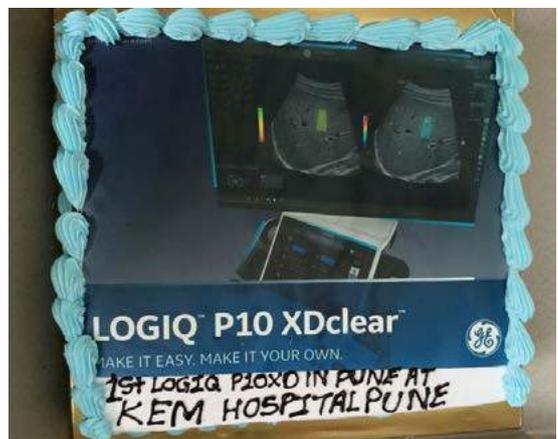
Advanced diagnostic system with multipurpose capabilities installed at KEM Hospital

An advanced diagnostic system with multipurpose capabilities was today inaugurated at KEM hospital. The machine is the first of its kind installed in Pune and provides flexibility and multi purpose capabilities to perform a wide range of examinations across multiple specialities including liver, cardiac, vascular, breast, thyroid, musculoskeletal, urology, paediatrics and OB/GYN.

The system was inaugurated by Dr. K J Coyaji, Medical Director, in the presence of Dr. X K Coyaji, Deputy Medical Director and Ms S. F Wadia amongst others.

Apart from an ultrasound imaging system, The GE LOGIQ P10 machine acts as a constant for helping in everyday needs including gathering information, making informed decisions and providing superior patient care. The machine is aptly aided with features like Power Assistant, Remote Control, Volume Navigation Import, Photo Assistant and LOGIQ brand usability. In a true sense the system has multi-purpose capabilities for a diverse caseload.

Giving an example of the diagnostic capabilities Dr. Sunil Chordia, Consultant Sonologist said that at a time when the prevalence of non-alcoholic fatty liver disease (NAFLD) is growing worldwide with the increase in obesity, the diagnosis of fatty liver becomes crucial. This real-time, image-guided method measures fatty content in liver tissue—a valuable metric in NAFLD assessments. Likewise the system will enable us in imaging for multiple diseases / conditions with higher efficiency and support.



Workshop for DNB Students

The hands-on training workshop for the new batch of DNB students on 'How to perform an Effective Literature Search and ' How to use a Reference Manager (Mendely)' was conducted by Dr. Gauri Oka (Research Consultant, Central Research and Publication Unit from BVDUMC, Pune) on Saturday 11th June 2022. The session was coordinated by Dr. Valentine Lobo.



Retirement function

Held on 29th June'22 for

- **Ms. Mangal Mahadalkar** (Sister Incharge-NHSF),
- **Ms. Leena Sathe** (Staff Nurse Gr I- NICU),
- **Ms. Jaya Chavan** (Staff Nurse-Family Planning),
- **Mr. Tukaram Narke** (Accounts Clerk GR I- Vadu),
- **Mrs. Shalan Satav** (Sr. Sweeper-NICU).



अपस्माराबाबत योग्य व्यवस्थापनाची गरज

डॉ. अभिजित बोरे

पेडियाट्रिक न्युरोलॉजी व
एपिलेप्सी तज्ज्ञ, केईएम
हॉस्पिटल, पुणे



आरोग्यमंत्र

एपिलेप्सी अथवा अपस्मार याला बोली भाषेत फ्रीट असे संबोधले जाते. हा एक प्रकारचा मेंदूचा आजार आहे, ज्यामध्ये मेंदूमधला विद्युत्प्रवाह अचानक वाढतो. हा विद्युत्प्रवाह मेंदूच्या पेशीतून उत्पन्न होतो व त्याचा मेंदूच्या अन्य भागात फैलाव होतो. अपस्माराचे प्रमुख लक्षण हे सिझर किंवा फ्रीट येणे असते. विविध व्यक्तींमध्ये हे वेगवेगळ्या प्रकारे आढळून येऊ शकते. अपस्मार हा एक हजारपैकी सात व्यक्तींना तो होऊ शकतो. याचे निदान आणि कार्यक्षमतेने योग्य व्यवस्थापन न केल्यास मुलांच्या भवितव्यावर आणि आरोग्यावर विपरीत परिणाम होऊ शकतात.

पालकांनी काय करावे ?

आपल्या मुलांना अपस्मार आहे, हे समजल्यावर बहुतांश पालकांच्या संमिश्र प्रतिक्रिया असतात. बरेच पालक ही स्थिती गांभीर्याने घेत नाहीत, तर दुसऱ्या टोकाला काही जण दिवसरात्र हवालदिल होतात. यामध्ये समाजात वावरताना, मित्रपरिवार आणि अपुऱ्या माहितीमुळे ते संभ्रमित होतात. माझ्या मुलाचे पुढे काय होणार, त्याला खेळता येईल ना, पुढे जाऊन भविष्यात योग्य शिक्षण आणि व्यवसाय करता येईल ना, अशा अनेक शंकांची पाल त्यांच्या मनात चुकचुकत असते. खूपदा मुलाला सांभाळण्याची जबाबदारी अधिक आव्हानात्मक असेल, ती कशी पेलवावी यामुळे मनात प्रश्नांचे काहूर माजते. मात्र, अपस्माराला न

घाबरता डॉक्टरांचे मार्गदर्शन घेऊन या आजाराला नियंत्रणात ठेवता येते आणि पालकांना व पाल्यांना सामान्य आयुष्य जगणे शक्य आहे. पाल्याला असलेला अपस्मार, त्याचा प्रकार, स्थिती, निदानातील निष्कर्ष याबाबत पुरेशी व सखोल माहिती घेण्याचा प्रयत्न करा. अपस्मार हा सौम्य ते गंभीर अशा अनेक प्रकारात असतो. त्यामुळे कुठलीही स्थिती गूहित धरणे जोखमीचे ठरू शकते. या स्थितीला स्वीकारायला निश्चितपणे वेळ लागतो. योग्य तज्ज्ञांशी याबाबत चर्चा आणि विचारविनिमय करणे योग्य आहे.

अपस्मारासाठी औषधोपचार

- अपस्मारावर औषधांमुळे नियंत्रण मिळविता येते.
- आजाराचा प्रकार आणि रुग्णाची स्थिती यावर उपचारपद्धती अवलंबून असते.
- औषधे घेत असल्यास, ते योग्यरीत्या आणि कायम घेत असल्याची खात्री करा.
- औषधांचे वेळापत्रक जाणून घ्या. (दिवसातून किती वेळा घ्यायचे, ते अन्नासोबत घ्यायचे का इ.)
- औषधांमुळे होणाऱ्या संभाव्य दुष्परिणामांबाबत, जसे की पुरळ, गुंगी येणे, कावीळ आदींची माहिती घ्यावी.

- खूप मुलांना तापात आणि औषध चुकल्यास फ्रीट येऊ शकते.
- आपल्या मुलाला अपस्मार आहे आणि तो त्यासाठी औषधे घेत आहे, हे शाळेलादेखील कळवा.
- काळजी घेणाऱ्या सर्व व्यक्तींना (पालक, शिक्षक आदी) प्रथमोपचार व आपत्कालीन औषधांची तपशीलवार माहिती देणे गरजेचे आहे.

काय काळजी घ्यावी ?

- क्रीडांगणावर सायकल चालविताना मुलाला हेल्मेट वापरण्यास सांगा.
- मुलांना एकटे बाथटब, बंद पाळण्यात ठेवू नका.
- घरात मुलांना गंभीर जखमा होऊ नयेत म्हणून फरशीवर कार्पेट वापरा.
- मुलाला एकटे पोहण्यास जाऊ देऊ नका.
- काही खेळ खेळण्यासाठी मुलावर निर्बंध येऊ शकतात.
- जसे की उंचीवर जाणे, मल्लखांब, जिम्नॅस्टिक्स. तरीही, ते बहुतेक गोष्टींमध्ये जसे की, मैदानी खेळ व बंदिस्त क्रीडांगणामध्ये खेळल्या जाणाऱ्या खेळांमध्ये पुरेशा मार्गदर्शनाखाली भाग घेऊ शकतीलच.
- बाथरूम वापरताना दाराला कडी लावायला सांगू नका.
- शिक्षकांना व क्रीडा प्रशिक्षकांना आजाराबद्दल पुरेशी माहिती द्या.
- मुलांचे नियमित दैनंदिन वेळापत्रक; ज्यामध्ये प्रामुख्याने झोप आणि खाण्याच्या वेळा नियंत्रित करा.

वर्तनाबाबतची समस्या सांभाळणे

एक गोष्ट लक्षात ठेवा की, शक्यतो इतर सामान्य मुलांप्रमाणेच अपस्मार असलेल्या मुलांचा सांभाळ करणे

गरजेचे आहे. ज्याप्रमाणे अपस्मार असलेल्या पाल्याला शाळेत, बाहेर खेळायला, फिरायला पाठवू शकतो, त्याचप्रमाणे चुकीचे वर्तन केल्यावर त्याला अन्य मुलांप्रमाणे रागवणे गरजेचे आहे. त्याच्याशी एक रुग्ण म्हणून वागण्यापेक्षा सामान्य मुलांप्रमाणे वागा. आपल्या पाल्याला इतर सामान्य मुलांप्रमाणेच शिस्त लावा. काही औषधे आणि दुर्धर अपस्मारांमुळे मुलांच्या वर्तन आणि आकलनक्षमतेवर परिणाम होऊ शकतात. जसे की, हायपरऑक्टिव्ह (एडीएचडी) किंवा विसरभोळेपणा होऊ शकतो. याबाबत डॉक्टरांचा सल्ला घ्या आणि योग्य उपाययोजना वेळेत करा.

भावना जपताना...

सर्वप्रथम मुलाला अपस्मार आजाराबद्दल शक्य असेल तितकी योग्य माहिती द्या. समजून सांगा. संपूर्ण कुटुंब, पाल्य आणि डॉक्टर यांनी मिळून अपस्माराच्या नियोजनाबद्दल चर्चा करणे गरजेचे आहे. त्याच्या प्रश्नांची योग्य व व्यवस्थित उत्तरे द्या. अनेकदा नैराश्य येणे, राग येणे, चिडचिड, निराश होणे अशा अनेक भावनिक समस्या निर्माण होऊ शकतात. त्यासाठी कायम सकारात्मक राहण्याचा व त्यांच्या आवडीच्या अशा छंदावर, खेळावर लक्ष केंद्रित करण्याचा प्रयत्न करा.

एखाद्या गोष्टीतील जोखीम कमी करून त्यांचे प्रोत्साहन वाढवून त्यांना मदत करा. त्यासाठी कुटुंबातील इतर सदस्यांची मदत घेणे योग्य ठरू शकते. इतर भावंडांना पण या आजाराबाबत योग्य माहिती द्या व ती समजली आहे की नाही याची खात्री करून घ्या. एकंदरच या सगळ्याबाबतीत समजूतदारपणाने काळजी घ्यायची गरज आहे.



WORLD ENVIRONMENT DAY

The Earth has enough resources for our need but not for our greed.

M.K. GANDHI

KEM Hospital PUNE
Quality and ethics in patient care

MEN'S HEALTH

Make Prevention a Priority

Many health conditions can be prevented or detected early with regular checkups and screenings like blood pressure, cholesterol, glucose, prostate health and more.

KEM Hospital PUNE 020 6603 7460
020 2621 7460

BRAIN TUMOR DAY

Not all tumors are cancerous. Many of them are treatable

A brain tumor or brain cancer is the growth of abnormal cells within the brain or spinal cord that can be dangerous as it can disrupt brain functioning

Symptoms of Brain Tumor

- HEADACHE
- NAUSEA
- VOMITING
- CONFUSION
- WEAKNESS IN ARMS AND LEGS
- SPEECH AND HEARING DIFFICULTY
- VISION PROBLEMS

KEM Hospital PUNE
Quality and ethics in patient care

Consult our Neurologists
020 6603 7460 | 020 2621 7460

#AutisticPrideDay

Teach, hope love & inspire

KEM Hospital PUNE

Inclusive Healthcare

At KEM we provide an affirmative and respectful environment to all patients

KEM Hospital PUNE
Quality and ethics in patient care

#WorldBloodDonorDay

DONATING BLOOD IS AN ACT OF SOLIDARITY

Join the effort and save lives

KEM Hospital PUNE