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Message

குறள் :

உற்றான் அளவும் பிணியளவும் காலமும்
கற்றான் கருதிச் செயல்.

மு. வரதராசன் விளக்கம் :

மருத்துவ நூலைக் கற்றவன், நோயுற்றவனுடைய வயது
முதலியவற்றையும் நோயின் அளவையும், காலத்தையும்
ஆராய்ந்து செய்ய வேண்டும்.

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Adenotonsillar Disease in Children

– When to go for surgery?

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Introduction

Adenotonsillar disease refers to a set of symptoms due to increased size and repeated infections of the adenoids and palatine tonsils. Although, these are protective in function in young children, their large size and infections cause a lot of problems.

The symptoms seen usually are

1. Recurrent sore throat
2. Fever
3. Snoring and mouth breathing
4. Adenoid facies
5. Earache and reduced hearing

We usually consider surgery that is adenotonsillectomy, when the medical treatment fails. However, the recognition of failed medical management and the timing of surgery is important to avoid untoward complications of this disease.

What are the sequelae of Adenotonsillar disease?

Recurrent infections of the adenoids and tonsils can cause a lot of trouble. In addition to causing sore throat and fever, they act as a source of infection to the surrounding areas.

The spread of infection to the ears through the Eustachian tube can cause acute otitis media. When left untreated, this can cause perforation of the ear drum and recurrent acute otitis media. Recurrent acute otitis media is a precursor to the development of chronic otitis media. These can result in decreased hearing at a young age. Eventually, it affects the language and speech development of the child.

The spread of infection towards the chest produces cough and breathing difficulty. These can trigger asthma in susceptible individuals. Bacterial infection can swell up the lymph nodes of the neck. Eventually the school performance of the child suffers.

Similarly, enlarged adenoids and tonsils cause airway blockage. The children start mouth breathing and snoring. Pediatric snoring and sleep apnoea are severe problems. It can permanently change the facial features of the child. We call it the adenoid facies. Adenoid facies includes

1. Elongated dull looking face
2. Crowded upper teeth
3. High arched palate
4. Inattentive child due to hearing loss
5. Pinched up nose with thin nostrils
6. Short upper lip
7. Open mouth

Adenoid facies may also be accompanied by allergic signs like Dennie's lines (horizontal creases under the lower eye-lid), Nasal pleat (a crease just above the tip of nose due to repeated rubbing of nose) and Allergic shiners (shadows under the eyes due to chronic venous congestion). These are all

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indicative of upper airway obstruction. The obstruction results in reduced quality of sleep of the child and increased irritability.

The children's concentration deteriorates severely. Blockage of Eustachian tubes due to enlarged adenoids, in turn, produces fluid inside middle ear and reduced hearing. Like before, the child becomes inattentive due to hearing loss. This affects the kids speech and language development leading to reduced school performance.

Management of this condition

General practitioners, pediatricians, emergency medicine doctors and ENT specialists are involved in treating this condition. Since many doctors are involved, the decision of when to recommend surgery for the disease becomes more subjective. We are presenting to you certain facts supported by studies, to help you decide when your patients need surgery.

One of the studies¹ puts a child with "more severe symptoms" as one who needs to get treated with antibiotics frequently, the symptoms lasting for several days, tonsillitis occurring 3-5 times each year and is accompanied by

1. Fever over 100.9°F
2. Tonsillar exudate
3. Cervical adenopathy
4. Presence of Group A beta-hemolytic streptococci bacteria

The study supports surgery in such children.

Paradise criteria² lists a few more conditions in addition to the above. Surgery is considered when there are

1. More than 7 episodes of tonsillitis in a single year
2. More than 5 episodes in 2 consecutive years
3. More than 3 episodes in 3 consecutive years

Other points to be considered -

1. Recurrent acute otitis media - when infection has progressed to the ears even after best medical management, it is advisable to get a surgical solution to the problem.
2. Otitis media with effusion - similarly, when there is glue ear due to Eustachian tube blockage by adenoids even after a certain age, surgery may be the only way out. Otherwise the hearing impairment will cause reduced development of child
3. Sleep-related breathing disorder and sleep apnea - Adenotonsillectomy is a clear indication in these cases, where the problems are due to enlarged adenoids and tonsils.

Watchful Waiting in this condition -

When the criteria for tonsillectomy are not clearly met, we opt for watchful waiting. During this period, it is advised to document every episode of tonsillitis and the treatment offered. Bacterial tonsillitis invariably requires a course of antibiotics. Repeated use of antibiotics is also harmful. Hence your decision to recommend surgery for a pediatric adenotonsillar disease is a consideration of the following three factors -

1. Clinical experience
2. Knowledge based on literature
3. Patient's expectations

We at PSG believe in offering excellence in healthcare tailored to the needs of each patient based on their own clinical conditions. Our treatment protocols match the international standards. We have the latest techniques for tonsillectomy like Coblation, Radiofrequency and Laser tonsillectomy.

References

- 1 <https://www.ncbi.nlm.nih.gov/books/NBK549575/>
- 2 <https://www.aafp.org/afp/2011/0901/p566.html>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5169082/>

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Eat Right Eat safe
Eat sustainable

■ **PSG HOSPITALS**
Department of Dietetics

The COVID-19 (also commonly called corona virus) pandemic is causing a lot of changes in the daily lives of people around the World. However, there are things that can be done to maintain a healthy lifestyle in these difficult times.

A balanced diet, comprising of nutrient-rich cereals, pulses, green leafy vegetables, other vegetables, fruits, milk and milk products, Nuts and seeds coupled with a healthy lifestyle, is the key to boost the immune system, a focal point in the fight against corona virus. Curd is a source of many nutrients and it also improves gut health by regulating gut bacteria, aids immune function and reduces inflammation.

Micronutrients (vitamins and minerals) and phytonutrients, that are primarily available in fruits, vegetables, greens, nuts, and whole grains play a crucial role in several metabolic pathways that aid in optimal immune function. These nutrients

- Enhance both native and adaptive immune function and prevent infection.
- Regulate immune function, keep inflammation under control and prevent tissue damage.
- Aid immune memory formation that helps prevent re-infection with the same pathogen.
- Help clear/scavenge oxidant species (toxins) that are produced in large quantities in the body during infection and immune response, and
- Increase beneficial probiotic bacteria in the intestine, regulate gut microbiota, maintain intestinal integrity and thereby reduce transmission of toxins from the intestine to the blood circulation.

Diet should have a balance of

- Macronutrients - Carbohydrate, Proteins, Fats
- Micronutrients - Vitamin A, vitamin E, vitamin C, vitamin D, Vitamin B complex, selenium, zinc, magnesium etc.,
- Water

CARBOHYDRATE

On an average, one should consume at least 3 servings of carbohydrate (1 serving = 25 g uncooked cereals or millets) in each meal, a total of 9 - 12 servings in a day. Complex carbohydrates come from whole wheat flour, corn, red / brown rice, millets like ragi, jowar, bajra, samai, thinai. Fruits and vegetables are power house of micronutrients and fibre that improve gut health and immunity. Cut down intake of refined carbohydrates like maida and bakery items. Limit intake of sugars, sweetened beverages and carbonated drinks.

PROTEIN

High Protein Sources (Vegetarian) - It is important to consume at least One serving of protein rich food in each meal / atleast 2-3 servings (1 serving = 25 g uncooked pulse) of protein rich foods per day. Eg Dhal, whole pulses, dhal, soya.

High Protein Sources (Dairy) - It is important to consume at least 3-4 servings (1 serving = 100 ml / g) of milk and milk products (curd, buttermilk, paneer /cheese etc) each day.

High Protein Sources (Non- veg) - Protein from non-vegetarian sources have high biological value. It is important to consume atleast one serving (70 to

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100 g or one palm size piece or one egg) of protein rich food in a day. Meat high in fat such as

organ meats, mutton etc should be consumed less frequently.

HEALTHY FATS

Our bodies need only a certain amount of fat each day, any extra that is consumed is stored in fat tissue and contributes to weight gain. One must maintain ideal SFA:MUFA:PUFA ratio of 1:1.3:1. (SFA: Saturated Fatty Acids, PUFA: Poly Unsaturated Fatty Acids, MUFA: Mono Unsaturated Fatty Acids) Moderate consumption of MUFA rich fats may help reduce total cholesterol and LDL cholesterol and may be beneficial in management of blood pressure and heart disease. Include MUFA rich oils like Groundnut oil, Rice Bran Oil, Canola oil which are considered to be healthy for cooking.

Rotation of Oils (alternating between different oils) may help achieve an ideal SFA:MUFA:PUFA ratio. Consult a Registered Dietitian to obtain an ideal ratio in your diet. It is important to reduce intake of

saturated fats (ghee, butter, cheese, organ meats) and avoid trans fat (margarine and vanaspati) which is usually found in large quantities in bakery items, fried foods especially the ones that are fried in used oils.

Recommended amount of Oil/Fat Intake is 500 - 600 ml per person per month. This amounts to 3 tsp (15 ml) of oil per day per person and 1 tsp (5ml) of ghee per day per person or 4 tsp of oil per day per person. This includes oil in the visible form i.e. oil added to cook the food. It does not include hidden fats in groundnut, coconut and oil seeds used in cooking.



Omega-3- Fatty Acid

Omega-3 fatty acids are essential fats. Foods high in Omega-3 include fish, vegetable oils, nuts (especially walnuts), flax seeds, flaxseed oil, and leafy vegetables. Alpha-linolenic acid (ALA) is found in vegetable oils and nuts (especially walnuts), flax seeds and flaxseed oil, leafy vegetables, and some animal fat. The human body generally uses ALA for energy, and conversion into EPA and DHA is very limited.

Eicosapentaenoic acid (EPA) and Docosahexaenoic acid (DHA) come mainly from fish, so they are sometimes called marine omega-3s.

IMMUNE BOOSTING NUTRIENTS

Nutrient	Role	Recommended Dietary Allowance	Sources
Vitamin A	Vitamin A is involved in the development of the immune system and plays regulatory roles in cellular immune responses and humoral immune processes.	Adults 600 mcg of Retinol or 4800 mcg of Beta Carotene	Carrot, Pumpkin, Dark Green Leafy Vegetables, Liver, Egg, Mackerel, Chicken Breast
Vitamin D	Vitamin D is known to enhance the function of immune cells, including T-cells and macrophages, that protect your body against pathogens	400 IU	Sunlight, Oily fish (salmon, sardine), egg yolk, liver, mushroom
Vitamin C	Vitamin C contributes to immune defense by supporting various cellular functions of both the innate and adaptive immune system. Vitamin C deficiency results in impaired immunity and higher susceptibility to infections	Adults - 40 mg/day	Amla, Guava, Capsicum, Orange, Raw Mango, Red Amaranth Leaves, Lemon Juice, papaya, pineapple

GENERAL

Nutrient	Role	Recommended Dietary Allowance	Sources
Vitamin E	Vitamin E is a potent antioxidant and has an ability to modulate host immune functions esp. in elderly populations.	7.5-10 mg alpha-tocopherol/day	Sunflower Seeds, Pistachios Nuts, Safflower Seeds, Garden cress seeds, , Almonds, Flaxseeds
Zinc (Zn)	Zinc is crucial for normal development and function of immune cells. Deficiency of zinc is associated with immune dysfunctions.	Adult Male- 12 mg/ day Adult Female 10 mg/ day	Cereals, Dals and Pulses Soyabean Black sesame seeds, Garden cress seeds, Nuts and Oilseeds, Chicken, Egg
Magnesium (Mg)	Magnesium acts as a cofactor for the immunoglobulin synthesis and plays a role in innate as well as acquired immunity.	Adult Male- 350 mg/ day Adult Female 310 mg/ day	Ragi, Jowar, Pulses and Legumes, Garden cress seeds, Almonds, Cashew, Green Leafy Vegetables, Sunflower Seeds, Black sesame seeds.
Selenium (Se)	Selenium plays a role in regulating oxidative stress in the body. Deficiency of selenium may alter host responses to viral infections.	40 mcg/day	Egg, Toor Dal, Channa Dal, Mackerel, Whole Wheat Flour, Moong Dal, Chicken

ANTIVIRALS FROM YOUR KITCHEN

Using these ingredients in your daily cooking or as tea/concoction may help improve immunity over a period of time.

- Tulsi (Eugenol), Neem (Azadirachtin), Ginger (Gingerol), Garlic (Allicin), Turmeric (Curcumin), Lemon grass (Triterpenoids)

GENERAL GUIDELINES

- NO SINGLE FOOD IS A SUPER FOOD.
- Do not fall prey to WhatsApp forwards that claim that consumption or application of certain foods will help prevent or cure certain respiratory tract infection. Although garlic, ginger, turmeric are known to have antiviral properties, there is no evidence on their role in preventing/ treating infections from respiratory tract viruses. You may use these antioxidant rich ingredients in your daily cooking. For eg in the form of marinade or tempering or you can add them to milk/ tea preparations.
- Water/ Fluids - It is important to maintain

hydration during any viral infection. Drink plain, boiled and cooled or warm water. Aim to consume 2.5 - 3 litres of fluids per day. Consult a Dietitian if you are suffering from any clinical conditions that may have fluid restrictions. Avoid drinking sweetened, sugary and carbonated beverages. Tender coconut water, lemon juices are good options to hydrate yourself.



- Avoid roadside foods, water and beverages. Prefer home cooked meals. Eat well cooked foods only. Avoid consumption of raw foods. Salads can be lightly steamed. Wash your hands thoroughly with soap before eating and drinking as well as cooking/handling food.
- Wash fruits and vegetables thoroughly.
- Buy non-veg items like chicken, meat and eggs from clean authorized outlets only. Ensure that food is cooked well (especially fish, meat and meat products).
- Wash food packets (like milk etc) with soap and water thoroughly.

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CAROTID ARTERY MYPOPIC PSEUDOANEURYSM EMERGENCYREPAIR : A CASE REPORT

A 32 year old gentleman, a known poly substance abuser with depression, on medications, was referred to CTVS from General Medicine for the complaint of a pulsating swelling on the left side of the neck. Initially the patient was admitted under General Medicine for left sided chest pain, breathlessness and chronic constipation. Chest x-ray showed pleural and pericardial effusion. Pericardiocentesis and pleurocentesis were done and sent for culture. The pericardial fluid culture showed MRSA, which was treated with vancomycin. On general examination, patient was found to have multiple swellings in his neck. Initially it was suspected to be tuberculous lymph nodes. Hence screening for tuberculosis was done. Test for tuberculosis was negative.

USG guided lymph node biopsy was planned. However Ultrasound neck revealed a large cystic lesion near the carotid bifurcation along with enlarged lymph nodes. Left external carotid artery was not visualized separately. Hence a CT Angiogram was performed to assess the left carotid vascular system. Due to the presence of infectious foci and absence of any history of trauma, mycotic aneurysm was initially suspected. CT angiogram revealed a large pseudo aneurysm measuring 31mm x 27mm with irregular walls arising just distal to the bifurcation of the left common carotid artery involving proximal left external carotid artery. Hence diagnosis of mycotic pseudo aneurysm was made. Left external

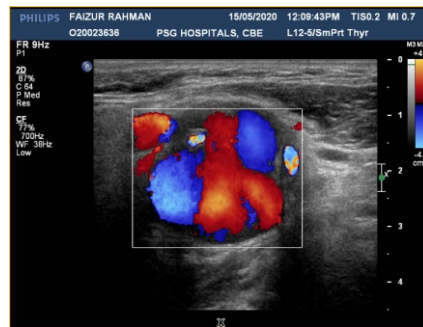
carotid artery was noted to reform via collaterals distal to the pseudo aneurysm. DSA was done to confirm the diagnosis and to plan the management. Left extra cranial ICA was normal. The right internal carotid flow was found to be suboptimal. Unilateral trial compression of ICA alternately did not reveal any compensatory flow from the opposite side. Hence preservation of internal carotid circulation on both sides was of paramount importance.

Treatment for mycotic pseudo aneurysm includes parent artery sacrifice. The alternative method was medical glue (NBCA) or intravascular thrombin injection at the site of the lesion. But there is a risk it can easily embolise causing a stroke. Hence Surgery was the only option and the patient was taken up for surgical intervention.

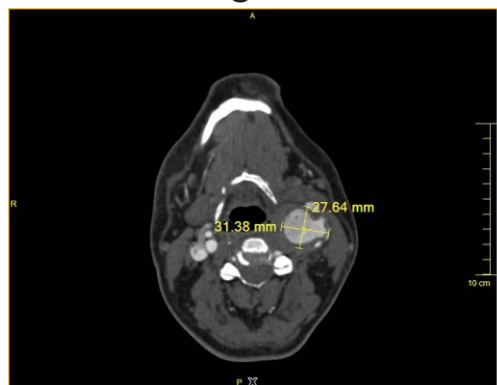
Ultrasound showing pseudo aneurysm with flow



Ultrasound showing yang-yin's flow



CT scan showing size of aneurysm



3D image of aneurysm



With the patient being MRSA positive, Aneurysmorrhaphy was carried out rather than conventional resection and reconstruction. This is an emergency life saving procedure. The surgery involves dissection of the aneurysm in its complex anatomical site. The ultimate aim was to remove the pseudo aneurysm and preserve the blood vessels and the neurological structures. Meticulous dissection was carried out and the blood vessels and nerves were preserved. The surgery went well and post operatively the patient was/is neurologically intact.

No Test was done to rule out COVID in this patient. As this was an emergency there was no time to test. These kind of situations are bound to occur how much ever precaution we take. Sometimes as we try to stay on our line of duty we all are bound to be pushed to the edge and sometimes off the cliff too.