

NEW YEAR SPECIAL EDITION

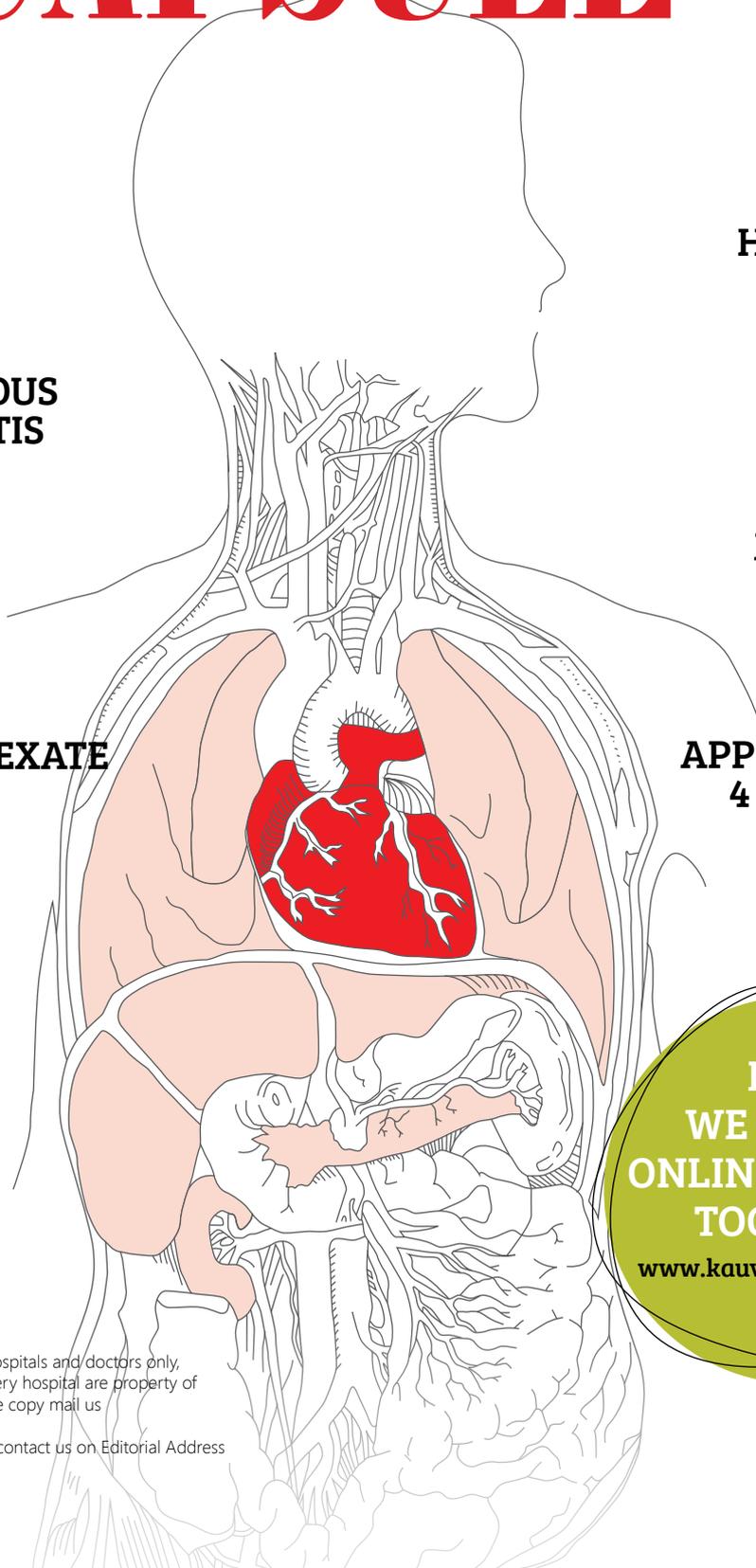
# CAPSULE

Medi News  
A quarterly Newsletter  
from

**kauvery**  
hospital



ISSUE - 15 | JAN 2016



**FLORID  
HEART FAILURE**

**SUB MENTAL  
INTUBATION**

**MANAGEMENT  
OF UTI**

**TELOVELAR  
APPROACH TO THE  
4 TH VENTRICLE**

**8 AWARD**

**NOW  
WE ARE ON  
ONLINE VERSION  
TOO, VISIT**

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**EMPHYSEMATOUS  
PYELONEPHRITIS**

**PULMONARY  
SARCOIDOSIS**

**THE METHOTREXATE  
NIGHTMARE**

**CHOICE OF  
ANAESTHESIA**

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**WISH YOU A  
HAPPY NEW YEAR  
AND HAPPY PONGAL**

My Dear fellow clinicians,

As we step into a fresh year with renewed hopes & a refreshed perspective, I would like to thank each & every one of you for your unstinting support & patronage and playing a vital role in our growth & development.

We have worked together as an extended family and striven to make the best contribution to establish the best possible standards of healthcare delivery in this region.

Kauvery hospital has always worked with a vision of making quality healthcare affordable without compromising on quality. All our units in Trichy have been awarded the NABH certificate of pre-accreditation and this is a standing testimony to our quality quest.

Along with clinical bench-marking we have also focused on process bench-marking & adopted the principles of Lean management in our operational processes. The Platinum award of excellence for 5s practice that we have won recently is an honour we cherish & feel proud of.

I would like to acknowledge & appreciate your contribution in every accomplishment & milestone of ours and wish you all a successful, healthy & happy year ahead.

Warm regards,  
Dr. S. Chandrakumar, MD  
Managing Director

**THIS " ONLINE VERSION "  
IS OUR NEW YEAR GIFT  
TO THE CLINICAL  
FRATERNITY AND HOPE  
IT WOULD FULFILL  
YOUR EXPECTATIONS  
AS ALWAYS.**



Dear Doctors,

Our " Capsule " has been in existence since 2009 and every edition of Capsule has featured standard articles across all medical specialties with updated information spanning a wide range of interests.

We have consistently tried to match your academic quest and all the editions have received an overwhelming response from you which is indeed heartening and your feedback, appreciation & constructive criticism has motivated us to make it better and value added every time.

As you are aware , Kauvery Hospital has been a front runner in IT enabled healthcare and we have always kept our pace with the advancements in user friendly technology.

Keeping with this trend, we have now launched the " Online version " of Capsule making it portable, easily accessible , user friendly and compatible with all platforms.

This " online version " is our new year gift to the clinical fraternity and hope it would fulfill your expectations as always.

Regards,  
Dr S. Manivannan, MD, DNB  
Joint Managing Director

## CAPSULE MAGAZINE

Capsule Magazine is published  
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FROM THE



**EDITOR'S DESK**

**DR. S. SENTHIL KUMAR, M.S., DNB., (URO)**  
SENIOR CONSULTANT UROLOGIST

Dear Friends ,

I am pleased to present the first issue of 2016 capsule, which will serve as an additional communication channel between the consultants of Kauvery and the ever growing referral Doctor community. This capsule contains information with variety of interest to the readers. From the Department of Renal sciences, there are two topics, one covers the entire information about urinary tract infections and the other deals with the 'Emphysematous Pyelonephritis' which is a highly Fatal disease. Apart from this there are interesting articles about submental intubation, florid heart failure, pulmonary sarcoidosis and others.



The Famous  
Steve Jobs Question ”

Steve jobs late Apple CEO - is known for his winning ways with i Pod, his transformation of Apple, his Achievements with Pixar. He was Brilliant, passionate and a philosopher.

He pondered life's big questions . There is

one in particular that he asked himself every time he faced a big decision in his life ' What would i do if this was the last night of my life? '

To live big life it's essential that you take calculated risks. Steve jobs met his wife that way. He was giving a speech at a university and spotted her in the audience. He met her after the event and wanted to take her to dinner - but he had an important business meeting. As he walked to his car, he asked himself. " If this was the last night of my life, what would I do?" . He ran back to the auditorium and found her. They were together since. With out daring there can be no winning. On the other side of your fear lies your treasure.

This is a great time to reflect. You are leaving one year and welcoming in another. So think about it.

I appreciate you taking the time to read our newsletter and I would like to thank every one who contributed to this edition.

HAPPY NEW YEAR 2016

## FLORID HEART FAILURE

**DR. R. PREM SEKAR**  
 SENIOR CONSULTANT  
 INTERVENTIONAL PAEDIATRIC CARDIOLOGIST  
 KAUVERY HOSPITAL, CHENNAI



**SUCCESSFUL STRATEGIC MANAGEMENT  
 OF A DIFFICULT CARDIAC PROBLEM  
 IN A 9 YEAR OLD IRAQI GIRL**

**MS. BANEEN MUSLIM KHALEEL**



Pre operative Picture



Post operative Picture

The child was admitted on 28/07/2015 with florid heart failure. She was initially presented at 7 years of age in a different institution in India, with a very large hole in the heart and severe lung hypertension. After detailed evaluation to ensure that she was fit for undergoing open heart surgery to close the hole in the heart, she was taken up for surgery. However, in the immediate postoperative period she was found to have a significant residual hole which needed her to undergo another open heart surgery the very next day. The hole being in a difficult location, multiple attempts to close it resulted in injury to the nerve in the heart that regulates heart beat. She then required a permanent pacemaker implantation for complete heart block. She subsequently returned to Iraq, but presented again at the same institution in January 2015 with a large residual hole again presumably due to the stitches giving way. This is a noted complication in surgical closure of holes in the heart located in difficult locations. This time, she underwent a nonsurgical closure of the residual hole with a plug like occluder after which she returned to Iraq.

In August 2015, at 9 years of age, she was referred to Kauvery Hospital with features of florid right heart congestive failure. Echocardiography revealed the occluder to be interfering with the valve on the right side of the heart causing severe leakage of blood. Additionally, there

was a large shunt through the device, from left ventricle directed into the right atrium. This resulted in severe congestion on the right side of her heart leading to swelling in her legs, face and abdomen.

The gravity of her sick condition was explained to her parents and she underwent yet another high risk open heart surgery on 3rd August 2015 by Dr.Prashanth Shah, Senior Consultant Paediatric Cardiothoracic Surgeon.

During this surgery, the occluder was removed, the resultant hole was closed and the valve was repaired. Post operatively, she showed a dramatic relief of the right heart failure with resolution of the swelling and breathing difficulties. She has subsequently returned to Iraq with advice to follow up with the local paediatric cardiologist.

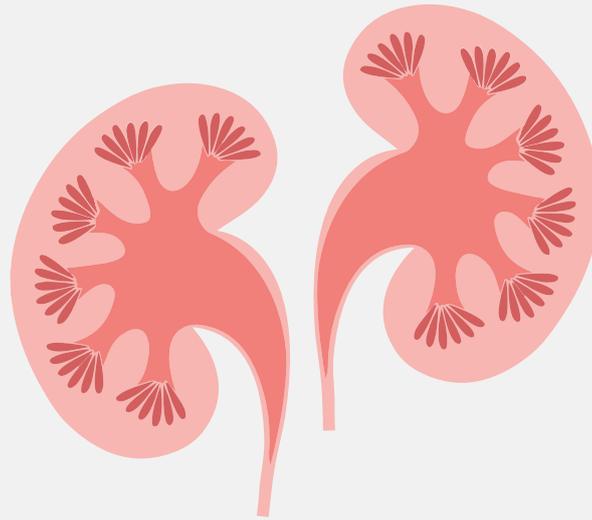
This case report highlights the importance of the close collaboration that is required by the team of care givers who provide care for the children with heart disease. It also places emphasis on the meticulous preoperative planning strategy and careful execution of the plan for a successful outcome.

## EMPHYSEMATOUS PYELONEPHRITIS AND OUR RECENT EXPERIENCE

**DR. S. SENTHILKUMAR,**  
SENIOR CONSULTANT UROLOGIST

**DR. N. KARTHICKEYAN,**  
CONSULTANT UROLOGIST

KAUVERY KIDNEY CENTER, TRICHY



### EPIDEMIOLOGY

EPN is a rare condition. It is six times more common in women. All documented cases are reported in adults. Juvenile diabetics are not at risk. Left kidney is affected often than right for reasons not known. Ninety five percent of patients with EPN have DM. Obstruction is the main cause of EPN in persons without diabetes.

### PATHOPHYSIOLOGY

- UTIs are common in DM, but all of these infections do not lead to EPN.
- Factors that predispose to EPN in DM may include:
  - Uncontrolled diabetes
  - High levels of HbA1c
  - Impaired host immune mechanism

### CLINICAL PRESENTATION

The classical triad of EPN includes Fever, flank pain and vomiting. Altered sensorium and shock are less common. Laboratory findings include:

- Leukocytosis with a left shift
- Thrombocytopenia
- An elevated creatinine level
- Positive culture

### IMAGING STUDIES

Xray KUB often reveals gas distribution over the region of kidneys. Renal USG may reveal hyperechoic areas with dirty shadowing. Hydronephrosis and perinephric fluid may be seen. CT is the imaging modality of choice. Several gas patterns have been described including streaky, mottled and bubbly. Perinephric abscess may lead to significant gas accumulation in the perinephric space. A stone causing obstruction may be seen in the collecting system.

### MANAGEMENT

Patients with EPN should be treated with aggressive medical management and prompt surgical intervention if indicated.

### CONSERVATIVE TREATMENT/ MEDICAL THERAPY

#### INDICATIONS

- Patients with compromised renal function
- Early cases associated with gas in the collecting system alone
- Class 1 and class 2 EPN
- Class 3 and class 4 EPN: In the presence of fewer than 2 risk

factors(eg, thrombocytopenia, elevated serum creatinine levels, altered sensorium, shock)

### CONSERVATIVE TREATMENT CONSISTS OF THE FOLLOWING:

- Prompt hydration & Systemic antibiotics = Mainstay of treatment.
- Relief of obstruction with percutaneous drainage or stent placement
- Rapid control of diabetes

### SURGICAL TREATMENT (NEPHRECTOMY)

#### INDICATIONS

- No access to percutaneous drainage or internal stenting (after patient is stabilized)
  - Type 1 or "dry-type" EPN immediate Nephrectomy
  - Class 3 and class 4 EPN with  $\geq 2$  risk factors (eg, thrombocytopenia, elevated serum creatinine, altered sensorium, shock)
- Nephrectomy may be associated with significant bleeding and injury to surrounding structures. The initial procedure should often be conservative with care to drain the abscess. Surgical intervention should be performed only after stabilization of cardio-respiratory status.

**OUR RECENT EXPERIENCES:**

With this overview, we now present our recent experiences from three patients with EPN who had variable presentation and were managed differently.

**CASE 1:**

60 year old female with DM presented with Left upper abdominal pain & fever for 20 days. On arrival she had Leucocytosis with HbA1c of 10.4. CT. KUB was done which showed multiple air pockets within the left kidney, perirenal and periureteric areas (Figure 1). After initial stabilization, Left DJ Stenting was done under local anaesthesia (Figure 2). Patient recovered completely and was discharged with oral antibiotics.

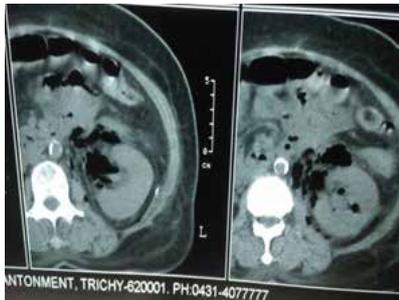


Figure 1 –Class III B EPN

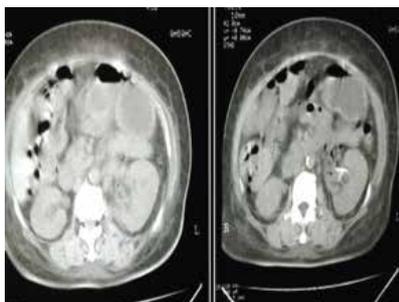


Figure 2: Post DJ Stenting - complete resolution of gas collection.



Figure 3: The entire left kidney was replaced with gas

**CASE 2:**

62 year old female with uncontrolled diabetes came with fever, vomiting and flank pain for 1 week duration. On admission she had severe left loin tenderness with thrombocytopenia and elevated renal parameters. The entire left kidney was replaced with gas with no fluid collection in CT KUB (Figure 3). ESBL producing E.coli was grown in urine culture. Under antibiotic cover DJ Stenting was done initially. Patient ultimately required left nephrectomy to remove the septic focus following which she made an uneventful recovery.

**CASE 3:**

A diabetic female was diagnosed to have right EPN and was advised nephrectomy elsewhere in view of uncontrolled sepsis. She came to our OPD with septic shock and was stabilised with antibiotics, IV fluids and inotropes. Percutaneous drainage was done under IV sedation. About 500ml of pus mixed with foul smelling gas were drained. Patient gradually improved and recovered from sepsis. She was discharged on the 8th POD without the need for nephrectomy.

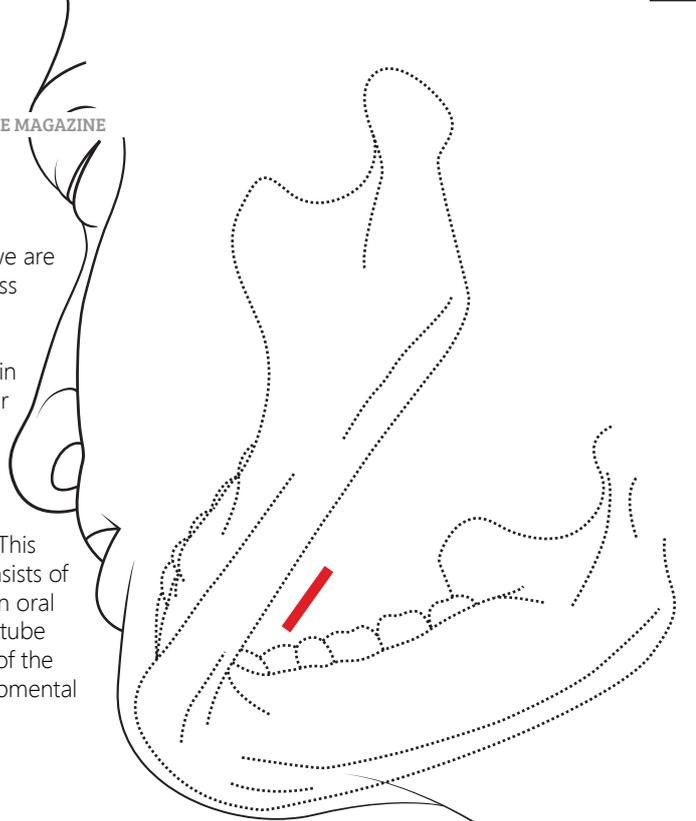
**CONCLUSION**

EPN occurs almost exclusively in Diabetics. It can have fatal outcome if not treated adequately and promptly. Fluid resuscitation and treatment with systemic antibiotics are the mainstays of management. Surgical intervention should only be performed after stabilization. Nephrectomy, the treatment of choice in the past is only required in few selected patients.

## SUB MENTAL INTUBATION

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TENNUR, TRICHY

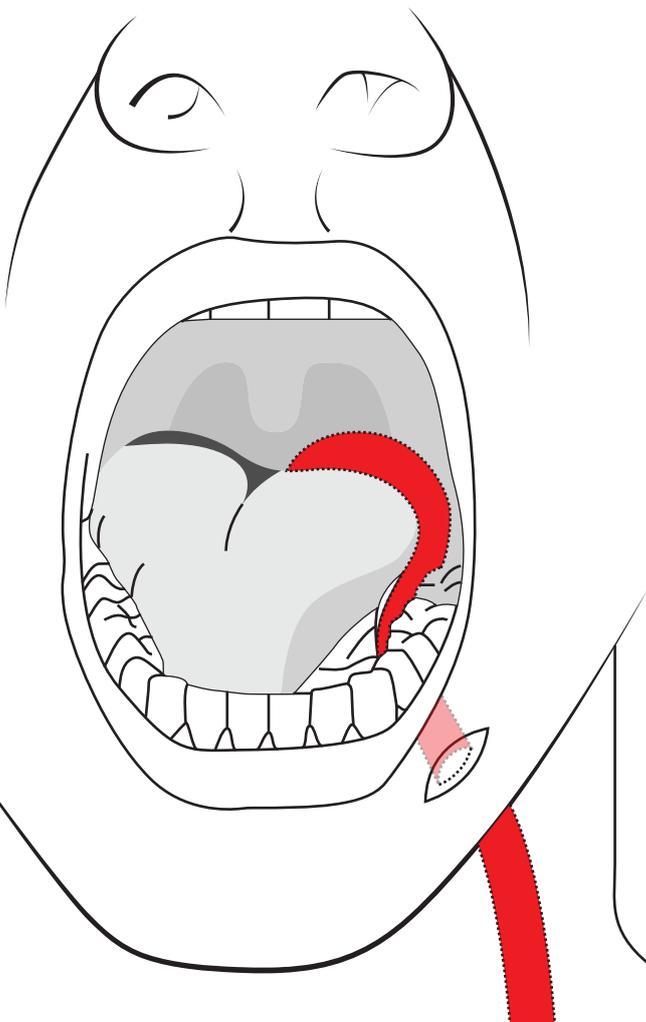
In this article we are going to discuss SUBMENTAL INTUBATION which is done in our hospital for patients with pan facial fractures who need pan facial fixation. This procedure consists of exteriorizing an oral endo tracheal tube through floor of the mouth and submental triangle.



Panfacial fractures involve the cranium, midface and the mandible. Early reconstruction of patients with panfacial fractures by open reduction and rigid internal fixation is now the standard of care which gives a very good pain relief after the surgery.

An important consideration at the time of surgery is the maintenance of airway without interfering with the reconstruction of fractured segments. Essentially the anaesthesiologist and the surgeon are competing for the same space. The surgeon needs access to an unobstructed field; and in most instances; maxillomandibular fixation is required intraoperatively for adequate reconstruction of facial fractures. Oral intubation may interfere with proper maxillomandibular reduction. Surgical correction of maxillofacial trauma frequently requires maxillomandibular fixation. In situations where maxillomandibular fixation is required and

nasoendotracheal intubation is contraindicated, a cricothyrotomy or tracheostomy has been the traditional method of airway control. Submental intubation technique consists of passing the tube through the anterior floor of mouth, allowing free intraoperative access to oral cavity and nasal pyramid without endangering patients with skull base trauma. Submental intubation, thus, as an alternative to tracheostomy can be used when short-term postoperative control of airway is desirable with the presence of undisturbed access to oral as well as nasal airways and a good dental occlusion. Accordingly, unnecessary surgery and potential complications associated with either a cricothyrotomy or tracheostomy can be avoided by using the submental intubation. Once the oroendotracheal intubation is achieved, it can be converted to a submental intubation.





Skin incision



After a skin incision and thorough dilatation with a curved artery forceps through the oral cavity the pathway is dilated with the help of Hegar's dilator. Note the ETT through the oral route in left angle of mouth



ETT exteriorized from oral route



ETT secured with 1-0 silk firmly.



ETT extubated through the submental incision itself.



Submental incision sutured after extubation.

Submental intubation has undergone various modifications since its inception and has unfolded many indications for it. It can be used in patients with midfacial or panfacial fractures with possible base of the skull fractures involving Nasal, Orbital and Ethmoidal ( NOE ) fractures where a routine nasal intubation may lead on to life threatening complications as the tube may enter the base of the skull through fractured cribriform plate of ethmoid. It can also be done in patients undergoing elective Le Fort Osteotomies or simultaneous elective mandibular orthognathic surgery and rhinoplasty procedure.

#### THE PROCEDURE

After a routine orotracheal intubation with flexo metallic tube ( size 7.5 or 8.0 ) and fixing the tube on either angle of the mouth with soft plasters, the patient is positioned with a pillow behind the chest to achieve a mild extension at the neck level. This position clearly exposes the chin and mentum. The area below the ramus of the mandible is draped after thorough asepsis. 3 cm away from midline just below the ramus of the mandible ( mind the facial artery nearby ) 3 to 4 ml of lignocaine adrenaline is infiltrated. A 3cm incision is made just parallel to the ramus of the mandible. Blunt dissection is made through the incision with the help of curved artery forceps. A finger is kept intraorally inside the floor the mouth just beneath the tongue. The curved artery forceps is felt on the finger kept intra orally. Blunt dissection is proceeded with a control felt by the intra oral finger (take care of submandibular duct opening). Once the forceps reaches the oral cavity it is slowly dilated. We can even use graded dilator like Hegar's dilator.

Next step is rerouting the oral tube into submental route .

The curved artery forceps is introduced through the opening made from external aspect to enter into the oral cavity. First pilot balloon of the ETT is guided through the oral cavity and exteriorized through the incision made. Next the universal connector of the ETT is disconnected and the ETT is also exteriorized with the help of curved artery forceps (FiO2 to 100%)

Once ETT is exteriorized bilateral air entry is checked and the tube is fixed submentally with silk.

At the end of the surgery the decision to extubate was carried out after consultation with the surgeon and also considering the clinical condition of the patient and the duration of the surgical procedure. On an average in all cases the surgical procedure went on for 7 to 8 hours. In our hospital almost every patients were extubated on table through the incision itself( not converting once again to orotracheal position of the ETT and extubating). After extubation the incision was closed with appropriate suture material. Postoperatively the scar is usually not visible as the incision made is just behind the ramus of the mandible.

#### CONCLUSION

Submental intubation is a useful alternative technique of airway management in patients with panfacial fractures. It demands a certain surgical skill, however, it is safe and quick to execute. It allows intraoperative correction of occlusion and enables surgery for associated nasal fracture in the event of concomitant skull base trauma

## PULMONARY SARCOIDOSIS

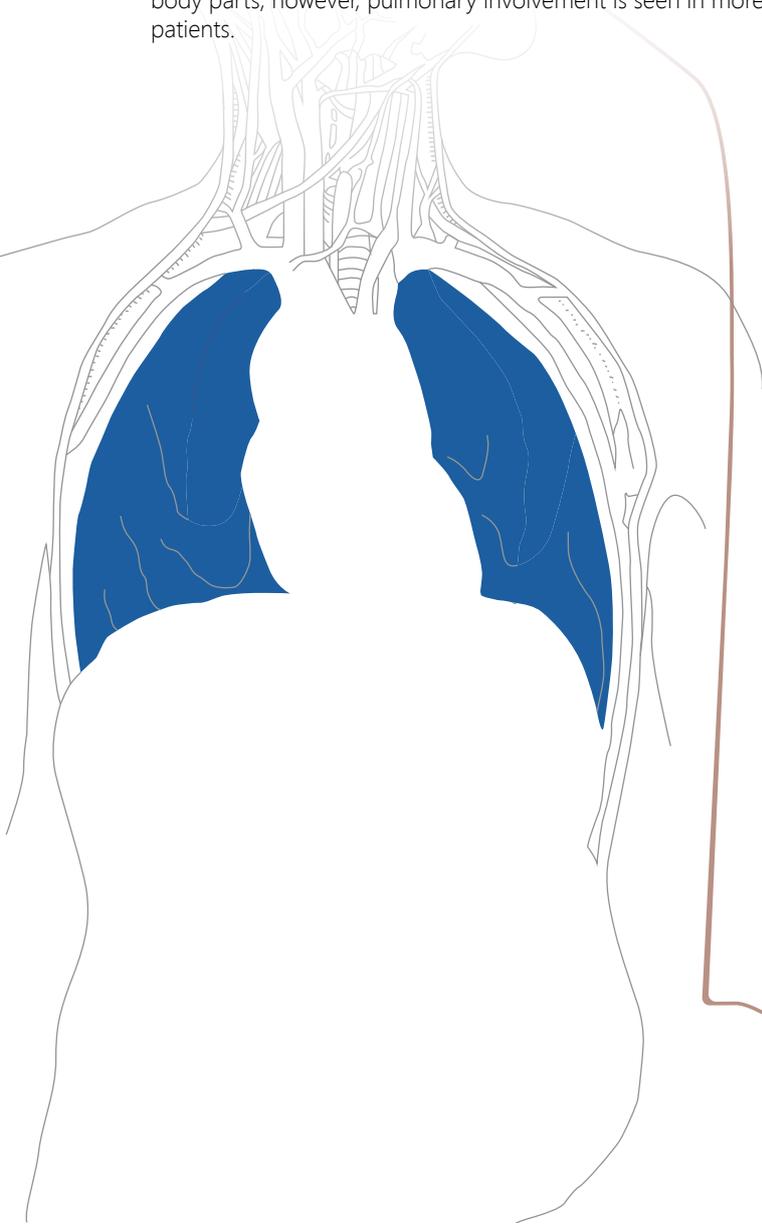
**DR. A. NAGARAJAN**

CONSULTANT-PULMONOLOGIST  
KAUVERY HOSPITAL, CANTONMENT, TRICHY

Sarcoidosis is a multisystem disorder of unknown causes, commonly affecting young and middle aged adults. Diagnosis is established on the basis of clinicoradiological features supported by histopathological evidence of non-caseating granulomas after exclusion of known causes. The typical radiographic feature of sarcoidosis is bilateral hilar lymphadenopathy with involvement of right paratracheal lymph nodes concomitantly.

Transbronchial lung biopsy (TBLB) and Transbronchial needle aspiration (TBNA) are important for diagnosing pulmonary sarcoidosis.

Sarcoidosis is a multisystem disorder of unknown etiology. Its characteristic feature is the presence of non-caseating granulomas that can affect various body parts; however, pulmonary involvement is seen in more than 90% of patients.



The clinical course and expression of pulmonary sarcoidosis are variable, may be asymptomatic or can present with severe respiratory symptoms and even can cause death. The resemblance to tuberculosis compounded by lack of awareness among physicians and pathologists with lack of diagnostic facilities has all been the reasons for under reporting of the disease in India.

### CASE PRESENTATION

52 yrs old lady with no significant medical history presented with 2 months history of cough, intermittent fever, and fatigue and weight loss. On examination there was no clubbing, skin rash, lymphadenopathy or organomegaly. Chest examination revealed bilateral fine crepitations and rhonchi. Complete blood count (CBC) was normal except high erythrocyte sedimentation rate (ESR 104 mm/hr). Mantoux test showed a skin reaction of 8X6 mm. Saturation of peripheral oxygen (Spo2) was 95% of room air.

Chest X ray (fig.1) showed bilateral hilar soft tissue prominence due to enlarged lymph nodes with paratracheal soft tissue opacity. Computed tomographic (CT) scan of chest (fig2) showed bilateral massive hilar lymphadenopathy and paratracheal lymph nodes.

Bronchoscopy showed widening of carina and chronic inflammation of bronchial mucosa suggestive of sarcoidosis. Cytopathology of bronchoalveolar fluid (BAL fluid) was done which revealed inflammatory smear. No acid fast bacillus was seen on Ziehl-Neelsen staining. No fungal elements or granuloma or atypical cells seen. Transbronchial needle aspiration

(TBNA) showed numerous epithelial cells and macrophages. No granuloma or atypical cells seen. Histopathological examination of Transbronchial lung biopsy (TBLB) revealed epithelioid cell granuloma with Langhans type of giant cells consistent with sarcoidosis.

Patient was treated with methylprednisolone and supportive medications. Patient was reviewed after 2 months, there was good clinical improvement in symptoms and repeat X ray chest (fig.3) showed fair radiological improvement.

The diagnostic yield of flexible fiberoptic bronchoscopy with transbronchial lung biopsy (TBLB) is about 60- 90%, even in radiographic stage I disease. Transbronchial needle aspiration biopsies (TBNA) are diagnostic in 63- 90% of patients with mediastinal and/or hilar adenopathy on chest CT.

The combination of TBNA and TBLB may have a higher accuracy than either procedure alone. Corticosteroids are the mainstay treatment option for severe or progressive sarcoidosis (pulmonary or extrapulmonary), and often gives significant regression of the disease. For patients not responding or having adverse effects from corticosteroids, immunosuppressive, cytotoxic or immunomodulatory agents are preferred. In patients with end-stage pulmonary sarcoidosis refractory to medical therapy, lung transplantation is a viable option.



Fig-1

**DISCUSSION:**

Sarcoidosis is characterized by the formation of non necrotizing epithelioid cell granuloma as a result of underlying immune dysregulation and typically shows multi organ involvement. Sarcoidosis has propensity to involve multiple systems, but pulmonary involvement usually dominates. Skin, eyes and peripheral lymph nodes are involved in 15% to 30% of patients. Involvement of spleen, liver, heart, central nervous system, bone or kidney occurs in 2 to 7% of patients.

The typical radiographic feature of sarcoidosis is bilateral hilar lymphadenopathy with involvement of right paratracheal lymph nodes concomitantly. On CT scan, the typical features of sarcoidosis are mediastinal and/ or hilar lymphadenopathy, nodular opacities and micronodules along bronchovascular bundles in the form of perilymphatic distribution.

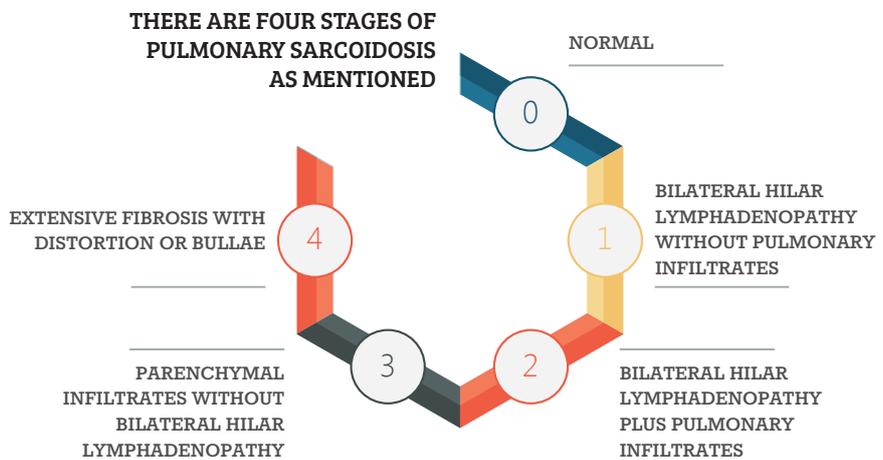


Fig-2

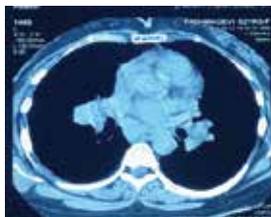
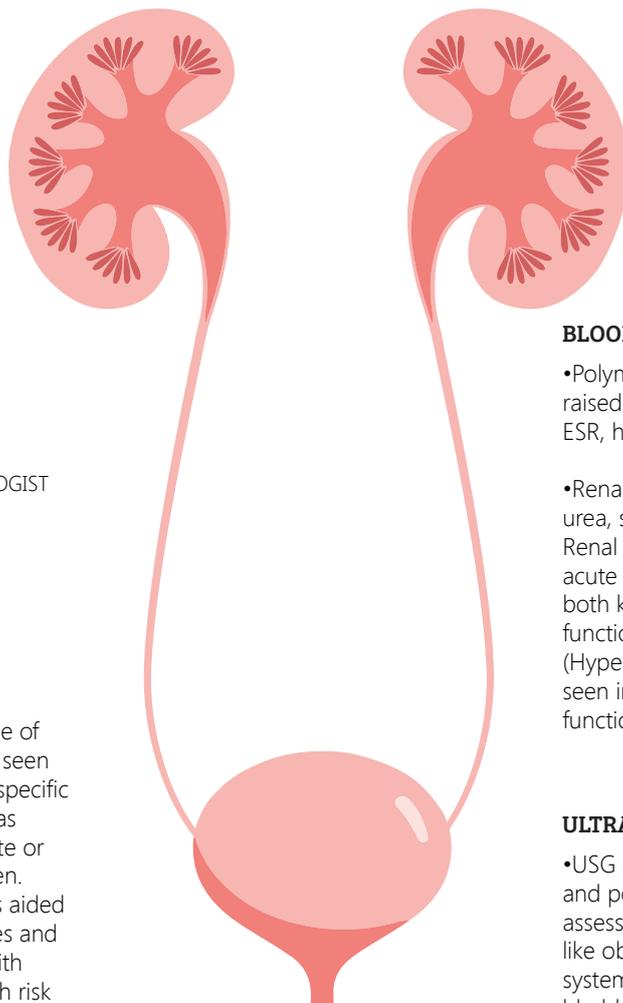


Fig-3



**SUMMARY:**

Sarcoidosis is a multisystem disorder with predominantly pulmonary involvement. The clinical and radiological features of sarcoidosis closely resemble Tuberculosis (TB). One should have a high index of suspicion for diagnosis of this condition. In countries with high prevalence of TB, like India, sarcoidosis is often misdiagnosed as TB. Hence, patients having bilateral hilar lymphadenopathy with or without infiltrates should be investigated for sarcoidosis.



## MANAGEMENT OF URINARY TRACT INFECTION

**DR. N. PRAHLAD,**  
CONSULTANT PEDIATRIC NEPHROLOGIST  
KAUVERY HOSPITAL, CHENNAI

Urinary Tract Infection (UTI) is one of the common bacterial infections seen in children. It presents with non-specific symptomatology. It can present as septicemia in infants, and as acute or chronic infections in older children. Recurrences are common. This is aided by various urinary tract anomalies and voiding dysfunctions. Children with Acute Pyelonephritis are at a high risk of renal scarring and future complications as proteinuria, hypertension, pregnancy related complications and end stage renal failure. Infancy, delayed, inadequate and improper anti-bacterial treatment, recurrent UTI, associated vesicoureteric reflux (VUR) and voiding dysfunction are high risk factors for renal scarring, in a growing kidney. Thus any delay in diagnosis and management may cause extensive morbidity in children and infants.

The criteria for the diagnosis of UTI, is a positive urine culture. Urine samples can be collected by a clean mid-stream urine specimen, supra pubic aspiration and urethral catheterization. Any urine culture taken by the above methods which grows a single organism of a significant colony count, confirms the diagnosis of UTI.

### MANAGEMENT OF UTI

#### INVESTIGATIONS: URINE

- Rapid tests like Urinary Nitrite and Leukocyte Esterase Tests have problems of false positivity and negativity. Thus more specificity can be gained by combining a positive test for leukocyte esterase and nitrite with clinic biological features of upper UTI. Pyuria may be absent in more than 50% of UTI.
- Gram- Stained Smear is useful as a supportive evidence of UTI. It has a better sensitivity and specificity than all other rapid tests.
- A combination of enhanced urine analysis and rapid tests will suggest UTI in 95% of children.

Thus reiterating that urine culture is the gold standard to diagnose UTI.

#### BLOOD

- Polymorphonuclear Leukocytosis, raised C-reactive protein and elevated ESR, help in the diagnosis.
- Renal function is monitored by blood urea, serum creatinine and electrolytes. Renal failure can occur with severe acute pyelonephritis when it involves both kidneys and when there is a single functioning kidney. Type IV RTA (Hyperkalemic Metabolic Acidosis) is seen in acute pyelonephritis in a single functioning kidney.

#### ULTRASOUND (USG)

- USG is done to identify the size, shape and position of the kidney and also to assess underlying anatomical defects like obstruction, dilated collecting system, stone disease, pyelonephritis, bladder wall thickening, post void residual urine and turbidity of the urinary tract.

#### DMSA

- Radio nuclide imaging used to identify acute pyelonephritis and cortical scarring.
- Its done during acute stage to diagnose acute pyelonephritis which helps to complete the treatment for acute pyelonephritis
- It is repeated after 6 months to see for scarring of the kidney

#### MCU

- Done after treating UTI adequately while on chemoprophylaxis
- Helps to identify bladder contour, posterior urethral valve and vesicoureteric reflux

### INITIAL MANAGEMENT

Indications for hospitalization are infants with features of toxicity and dehydration, children who are unable to retain oral medicines, clinical urosepsis, investigations suggestive of bacteremia, immunocompromised children and children who fail to respond to outpatient therapy.

These children are managed with IV fluids to maintain hydration till oral acceptance is restored, paracetamol and parenteral antibiotics. NSAID's are best avoided. Pending urine culture parenteral antibiotics like ceftriaxone, cefotaxime, aminoglycoside and co-amoxiclav can be started. Subsequently treatment can be modified based on anti microbial sensitivity. With the improvement in the general condition and oral acceptance, oral antibiotics can be started like cefixime, co-amoxyclov and ciprofloxacin.

Children with lower UTI and those above 3 months of age with upper UTI can be treated with oral antibiotics. Symptoms and fever reduced by 48 to 72 hours. Failure to respond may be due to resistant pathogens and underlying anatomical complications or non compliance. These children need re-evaluation. Duration of therapy is 7 to 10 days for a simple UTI and 10-14 days for acute pyelonephritis. Following treatment of the UTI antibiotic prophylaxis are started for children less than one year of age, pending imaging studies.

### GUIDELINES IN THE MANAGEMENT OF CHILDHOOD UPPER UTI

- All febrile UTIs are treated as acute pyelonephritis.
- For acute pyelonephritis, total duration of treatment is 14 days. 5 days of parenteral followed by oral drugs.
- Modify antibiotic dose basing on serum creatinine.
- Serial monitoring of serum creatinine is mandatory when aminoglycosides are used.

- Fluoroquinolones (ciprofloxacin) should not be used as first line agents. It is best reserved for UTI caused by paeruginosa or other multi drug resistant organisms.
- Antibiotic prophylaxis are started only in case of recurrent UTI, complicated UTI, UTI with VUR and DMSA with cold areas.

### GUIDELINES IN THE MANAGEMENT OF CHILDHOOD LOWER UTI

- Appropriate oral antibiotic therapy is sufficient.
- Duration of therapy is 7 to 10 days.
- Dysuria and severe bladder spasms are managed with bladder analgesics and alkalinizing agents.
- Bladder analgesics like phenazopyridine hydrochloride are used. This drug should not be used in children with renal failure. Other drugs commonly used are flavoxate hydrochloride which has an anticholinergic and antimuscarinic effect. It is not recommended for children for less than 10 years of age.

### GUIDELINES IN THE MANAGEMENT OF CHILDREN WITH ESBL PRODUCING ORGANISMS

Infections due to ESBL producers range from uncomplicated UTI to life threatening sepsis. It can occur as an isolated infection or secondary to colonization.

- In case of colonization, removal of the source of infection is vital, eg. Catheter.
- Drug of choice is carbapenems.
- For an uncomplicated nonbacteremic UTI, a 3 day therapy is enough.
- For a complicated UTI, 2 week therapy is indicated.
- Quinalone antibiotics are avoided in the treatment of ESBL infections.

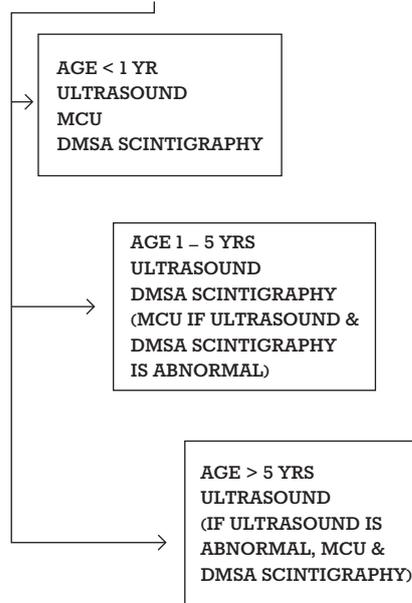
### INDICATIONS FOR ANTIBIOTIC PROPHYLAXIS

Antibiotic prophylaxis definitely reduces the incidence of UTI in a child with recurrent UTI.

- Infant with febrile UTI pending imaging studies.
- Vesicouretric reflux.
- Obstructive uropathy with Vesicouretric reflux.
- Cold areas in DMSA without VUR.
- Drugs used – Cephalexin, Cotrimoxazole and Nitrofurantoin.
- Avoid Chemoprophylaxis in neurogenic bladder on CIC, PUV and urolithiasis.
- Cyclical chemoprophylaxis has no role.

### IMAGING EVALUATION AFTER FIRST UTI

#### FIRST ATTACK OF FEBRILE UTI



### PREVENTION OF RECURRENT UTI

Adequate hydration, timed voiding, triple voiding, avoid constipation, treatment of thread worms and circumcision in case of repeated UTI with high grade reflux are the general steps to be followed to prevent recurrence of UTI.

As UTI presents variably with nonspecific symptoms, high index of suspicion is needed to diagnose UTI by sending a urine culture prior to the initiation of an antibiotic, as it is the corner stone for early diagnosis and management. This prevents renal scarring and morbidity in children.

## THE METHOTREXATE NIGHTMARE

**DR. SHWETHA RAHUL,**  
DERMATOLOGIST AND AESTHETIC PHYSICIAN  
KAUVERY HOSPITAL, CHENNAI



Methotrexate has been one of the most useful weapons in the immune warfare. But inadvertent use of the drug can lead to life threatening complications as seen below

### THE ENTHUSIASTIC OVERDOSER

- An educated 50 year old male suffering from chronic unstable plaque psoriasis self medicated himself on 5-10 mg/day of oral methotrexate daily for > 2months

- He presented with Chills, bleeding gums, hematuria, melena,odynophagia and severe ulceration of psoriatic plaques and oral mucosa. Multiple bleeding ecchymotic patches in the posterior pharyngeal wall were also seen.

- Investigations revealed pancytopenia with platelets as low as 5000/cu mm

### TREATMENT

- Admission in IMCU
- Alkalisiation of urine to raise urine Ph > 7 with sodium bicarbonate (40–50 mEq sodium bicarbonate per liter of i.v. Fluid till Ph > 7)
- Inj Folinic acid: 15mg i.v every 6 hrs for five days
- Inj GM CSF(filgrastim): 300 micrograms i.v. Daily for five days or until total count exceeded 4000 cells/ cu mm
- Platelet transfusions ( single donor)
- Broad spectrum i.v antibiotics
- i.v fluids for hydration

Following the excellent care given by our institution, the patient went home completely recovered.

### DISCUSSION:

The reason for the toxicity in this patient was the daily dosing instead of the recommended once weekly dosing. And the lack of folate supplementation while on MTX.

- Once ingested, MTX is converted to polyglutamate form which is stored in various tissues including RBCs and hepatocytes. MTX is an antimetabolite drug; the accumulation of MTXglu in the tissues viz liver, erythrocytes, etc. reduces the polyglutamation of natural folates and may account for the chronic toxicity associated with MTX

- The organs that take the major hit in MTX toxicity are skin, mucosa, liver ,GIT and the kidneys

### THE FOLLOWING ARE THE RISK FACTORS FOR MTX TOXICITY:

- Renal dysfunction
- Presence of infection
- Folic acid deficiency
- Hypoalbuminemia
- Concomitant use of drugs such as trimethoprim
- Advanced age
- Concomitant use of NSAID
- Inadvertent use of MTX dose

### HOW CAN WE PREVENT THIS?

- Explain your prescription to your patient
- Ban OTC availability of MTX
- Regulations to ascertain that old prescriptions are not used for repeated purchase of medication by patients

### WHAT'S THE UPDATE?

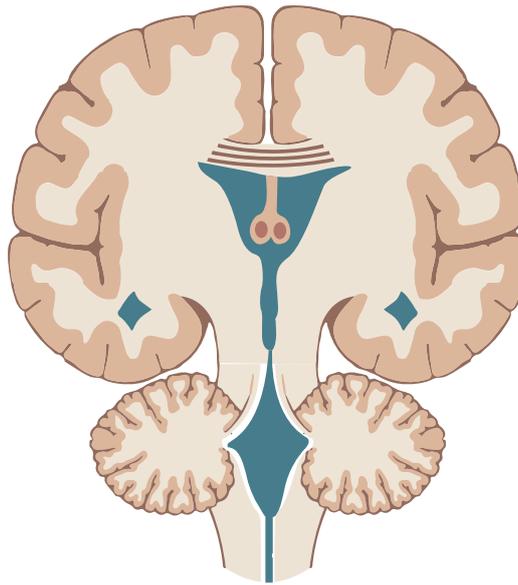
Recent studies have elucidated the role of genetic polymorphisms in the enzyme involved in the conversion of homocysteine to methionine, methylene tetrahydrofolate reductase MTHFR, in excess methotrexate marrow toxicity in patients with rheumatoid arthritis (van Ede et al., 2001a; Urano et al., 2002; Kumagai et al., 2003).

- Thus, the results of these studies demonstrate that the C677T polymorphism is associated with enhanced methotrexate mediated marrow toxicity.

- Caretakers to administer drugs to older patients to avoid confusion; encourage use of weekly pill boxes

## TELOVELAR APPROACH TO THE FOURTH VENTRICLE & TOTAL EXCISION OF 4TH VENTRICULAR SOL

**DR.M.VIKRAM**  
CONSULTANT NEUROSURGEON,  
KAUVERY HOSPITAL  
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Fourth Ventricular tumors are known for its appearance in all age groups and posses its own problems related to approach for excision and new deficits in terms of gait disturbances, dysarthria etc., beyond the damage caused by the tumor per se, with the advent of the telovelar approach the new deficits incidences decreases dramatically even in the early post op period without limiting the quality of excision and is truly a minimally invasive approach as it means in the aspect of less invasion in the brain with no disturbances of the connecting fibers.

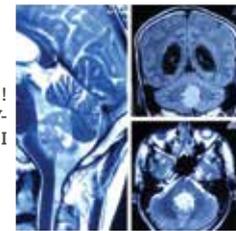
In the past, operative access to the fourth ventricle was obtained by splitting the cerebellar vermis or removing part of a cerebellar hemisphere. It was found that opening the tela alone will provide adequate ventricular exposure, in most cases, without splitting the vermis. Opening the tela alone provides access to the full length of the floor and the entire ventricular cavity except, possibly the

fastigium, superolateral recess, and the superior half of the roof. Tumors in the fourth ventricle may stretch and thin these two semi-translucent membranes to a degree that one may not be aware that they are being opened in exposing a fourth ventricular tumor.

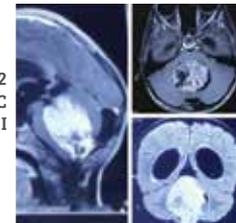
Four Cases have been approached by this approach over last 2 years and it was found to be very successful with no morbidity, no cerebellar ataxia, cranial nerve deficits or other post operative complications and we could discharge the patient ambulant independently on 3rd post operative day itself. The approach gave us the opportunity to excise the lesion completely as seen here in the pre and post op images as well without any increase in the operative time, or disturbances to the neural structures. Though two of the benign lesion were gelatinous to fibrous in its nature for dissection, the lesion could be excised totally by this approach.

### SPECIAL POINTS OF INTEREST

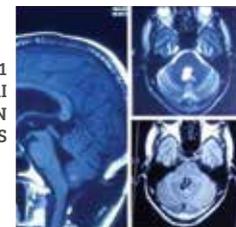
- Minimally invasive brain surgery is less invasion in the brain structures and not at the skin alone
- Usage of newer less invasive techniques keeps the functional aspects of the patient well retained to lead a better Quality of life.
- Less invasion cannot compromise the quality of excision or mobility, mortality of the patient.



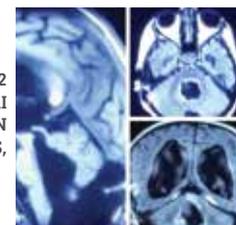
PRE OP CASE 1  
HPE- EPENDY-  
MOMA GR. I



PRE OP CASE 2  
HPE- PILOCYTIC  
ASTROCYTOMA. GR. I



POST OP CASE 1  
CONTRAST MRI  
TOTAL EXCISION  
NO DEFICITS



POST OP CASE 2  
CONTRAST MRI  
TOTAL EXCISION  
NO DEFICITS,

**CASE PRESENTATION**

**Case 1**, 65 year old man, presented with head ache mild gait disturbance, visual blurring and occasional vomiting, for 8 months duration initially treated elsewhere and was investigated and find to have fourth ventricular lesion, in view of fear of surgery patient postponed treatment options, patient was convinced about he minimally invasive procedure on the brain and underwent the procedure with no post operative complications or new deficits, post op, contrast imaging showed no residul lesion. Histopathology was reported as grade 1 ependymoma and did not require any further treatment on 6 months followup.

**case 2**, was a 6 years old girl presented with head ache, vomiting and progressive visual loss on both eyes, initially treated elsewhere for 1 year by alternative medicine, as child lost vision completely and head ache, vomiting persisted came here for further management with not other deficits. Child underwent the minimally invasive procedure with no new post op deficits and improving neurologically with no vision improvement as optic nerve atrophied due to long standing ICP. Pre operatively as the lesion was dissected from the medulla oblongata, floor of the fourth ventricle there were severe brady, tachy, high and low b/p fluctuations within a span of 5 to 10 minutes due to disturbance in the medullary control, and was posing a severe surgical challenge to the managing anesthetist along with change periodic stoppage of dissection, change of dissecting area we could manage the scenario and could resect the tumor totally which was clearly seen in the post operative contrast MRI. Histopathology was reported as grade1 pilocytic astrocytoma.



## CHOICE OF ANAESTHESIA SEGMENTAL EPIDURAL ANAESTHESIA WITH B/L OBTURATOR NERVE BLOCK

**DR. HEMA**  
KAUVERY HOSPITAL, CHENNAI

92 year old Mr.Swaminathan, a k/c/o DM/SHT on T.Daonil 5mg/BD, Insulin 15units/OD and T.Amlong 5mg/OD was posted for TURBT for a huge tumour involving both lateral walls and base of the urinary bladder. He had undergone truncal vagotomy for duodenal ulcer and tympanoplasty earlier.

On examination, his pulse rate was 78/min, regular and BP was 184/76mmhg. ECG showed NSR, RBBB. Chest Xray showed unfolding of aorta. Echo confirmed Ef 67%, gr I diastolic dysfunction. Blood reports were Hb – 11.4gm/dl, FBS – 139, PPBS – 206, urea – 58, Creatinine – 2 and electrolytes – WNL. Cardiologist opinion was obtained. Patient had b/l basal crackles for which incentive spirometry was started a week before and he was nebulized preoperatively.

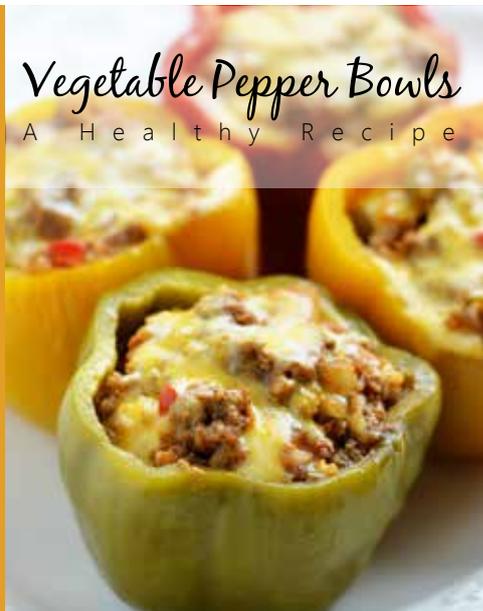
It provides better and stable hemodynamics and it avoids polypharmacy and its physiological effects on a fragile geriatric patient. It provides optimal operating condition for the surgeon and it can be extended for any number of hours. If required, the epidural catheter can be preserved for the second stage of procedure. Patient was co-loaded with 500ml of Hartmann's solution. In sitting posture, under sterile aseptic precautions, under L/A, 17G tuohy needle entry at T12- L1, epidural space was identified using LOR technique at 5cm from skin. Catheter was placed 4cm in epidural space, cephalad. 6ml of 2% lignocain with adrenaline and 1ml of sodium bicarbonate was given. B/L obturator nerve block was given to avoid obturator jerk on direct nerve stimulation that might happen intraop as the growth was on both the lateral walls, close to the nerves. Using nerve stimulator 20ml of 0.375% bupivacaine on each side was given with

a caution not to exceed maximum allowable dose to avoid L/A toxicity. In view of extended duration of operating hours on an elderly patient, procedure was planned as two stages. Epidural catheter was preserved for II stage that was planned 3days later. During redo TURBT, Epidural anaesthesia was resumed by activating epidural catheter and from then on topup was given as and when required. As there was residual growth only on the right lateral wall of the urinary bladder, only right obturator nerve block was given using nerve stimulator. Inj. Tranexamic acid 1gm was given on both the occasions to minimize blood loss. Intra op hemodynamics were stable. Patient did not require blood transfusion post op. Epidural catheter was removed subsequently and patient was sent home after an uneventful hospital stay.



## CONGRATULATION TO CHENNAI KAUVERY IMA BRANCH FOR WINNING 8 AWARDS AT STATE IMA CONFERENCE

- Best Branch
- Best Journal
- Best CME
- Best Community Activities
- Blood Donation
- Best Membership Contribution
- Best Secretary
- Best President.



### Vegetable Pepper Bowls A Healthy Recipe

Capsicum or Peppers are one of the most versatile vegetables. You can use them in curries, in fried rice, pulaos, in salads and as stuffed bowls. The stuffing could be cooked or used as a salad. Whichever way you use it, it is delicious and colorful. Capsicums come in four different colors – Green, Red, Yellow and Orange and each color gives off a different flavor.

Capsicum contains small levels of capsaicin, an alkaloid compound, which has anti-bacterial, anti-carcinogenic analgesic and anti-diabetic properties. They are also a rich source of Vitamin C, A, Vitamin B complex and minerals such as manganese, potassium, selenium, magnesium, zinc, copper and iron.

#### Nutritional Value in this Recipe:

Per serving – 342 calories;  
Carbohydrate – 8g, fat – 11g,  
sodium 46g, fiber 17g, cholesterol  
– 550mg.

#### Preparation:

1. Wash the capsicum and cut open at the top. Remove all the seeds and white soft layers from within the capsicum and discard. Arrange the capsicum shells on a plate and set aside.
2. In a pot, boil potatoes with water. Once cooked, peel and mash. Set aside.

3. Place a Kadai on the stove (low heat). Add 2 tablespoons of Oil.
4. Once the oil is a bit hot, add the diced onions and sauté, until the onions turn pink or translucent.
5. Add the carrots, peas, and beans.
6. Add the Jeera, Turmeric, Chilie and Garam masala powders. Add salt to taste.
7. Stir in the Ginger / Garlic paste and sauté for 5 minutes.
8. Once the vegetables are half done, stir in the mashed potatoes, mix and remove from the stove.
9. Next in a small bowl, mix just enough water to make a thick paste of the corn flour.
10. Using a teaspoon or tablespoon, ladle the vegetable mix into the capsicum bowls.
11. Once the vegetables are filled to the brim, cover each capsicum with the corn flour paste to seal the vegetables.
12. In a Kadai, pour some oil for shallow frying. Take each capsicum bowl filled with vegetables and gently fry it in the shallow oil, until the capsicum is cooked.

Serve as a side dish with dal and rice or any other curry / curd and rice. Non-vegetarians can substitute the beans with minced meat (beef, lamb or mutton) of their choice.

#### Ingredients:

- Green, Red, Orange, Yellow Capsicum Peppers – 6 medium size
- Potatoes – 4 medium size
- Onion – 1 small finely diced or ¾ cup of finely diced onions
- Green Peas – ½ cup fresh (can substitute with black cow peas / karamani)
- Carrots – 1 finely chopped
- Green beans – 10 finely chopped
- Jeera – ½ tsp
- Turmeric powder – ¼ tsp
- Red chili powder – ¼ tsp
- Garam Masala – ¼ tsp
- Ginger / Garlic paste – 1 tsp
- Salt to taste
- Corn Flour – 1 cup
- Oil (Refined) – 1 cup



## WELCOME TO KAUVERY FAMILY



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- Your patients are taken care by well trained doctors and paramedics
- A safe environment for an early recovery
- Less chance of medication errors and hospital aquired infections
- Practice of evidence based medicine
- Overall satisfaction of the patient and family is improved.

This certification reiterated kauvery's goal of providing quality care to your patients

We would be happy to share our experience on quality certification with your team members. If you require any assistance or training for your staffs kindly feel free to call our Quality Manager Mr. Vairamuthu - 8973957986 Email: [nabh@kauveryhospital.com](mailto:nabh@kauveryhospital.com)