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# CAPSULE

Medi Magazine
A quarterly magazine
from
kauvery hospital

## TRANSNASALENDOSCOPIC ORBITAL DECOMPRESSION

## PAEDIATRIC SEPTIC ARTHRITIS OF ANKLE DUE TO GRANULICATELLA ADIACENS

## BRONCHOSCOPIC EXCISION OF INTRALUMINAL BRONCHIAL CARCINOID

## A DANGEROUS MISDIAGNOSIS -AVERTED IN TIME

## NEURO SURGERY

## GLUCOSE-6-PHOSPHATE DEHYDROGENASE DEFICIENCY G6PD DEFICIENCY

## STENTING OF THE PATENT DUCTUS ARTERIOSUS

## INAUGURATION OF KAUVERY BRAIN & SPINE CENTRE

## CAPSULE ENDOSCOPY

## HEALTHY RECIPE FRESH CORN SALAD & QUIZ

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**CAPSULE MAGAZINE**

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# FROM THE EDITOR'S DESK

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

Dear colleagues,

I'm glad to meet you in the 17th edition of our medical magazine, CAPSULE. To begin with, I wish all the clinicians a HAPPY DOCTORS DAY. I thank each and every one who contributed case report and took part in the success of the magazine. This edition had an immense response from the clinicians in case report contribution, the case reports which were not included in this edition will be presented in the next edition, due to space constrain. In this edition I would like to share with you an interesting note I came across. This message really gave me the feel about a patient's internal crave from a doctor, and how he needs a doctor to facilitate him. So friends kindly take this message, not as my advice **but.....**

## ADVICE FROM A PATIENT

This may be a normal day at work for you
but it is a big day in my life.
The look on your face and the tone of your voice
can change my entire view of the world.
Remember, I'm not usually this needy or scared.
I'm here because I trust you, help me to stay confident.
I may look like I'm out of it,
but I can hear your conversation.
I'm not used being naked around strangers,
Keep that in mind.
I'm impatient because I want to get the heck out of here.
Nothing personal.
I don't speak your language well.
You're going to do what you my what?
I may only be here for four days,
but I'll remember you the rest of my life.
Your patients need your patience.

# TRANSNASAL ENDOSCOPIC ORBITAL DECOMPRESSION

By
Dr. Hari Meyyappan
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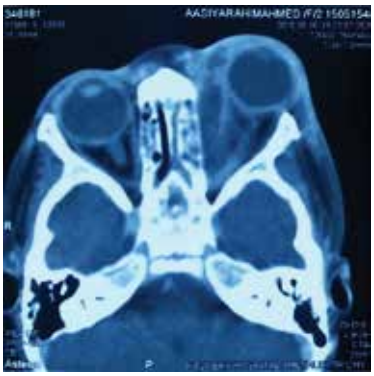
Fig: 01

Fig: 03



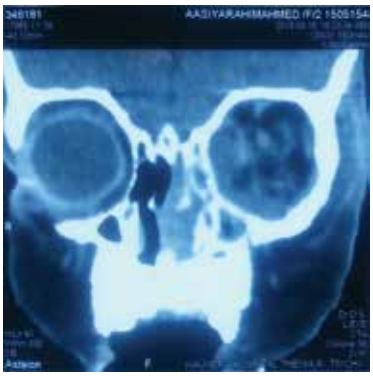


Fig: 02

Fig: 04

**Acute Sinusitis of the ethmoid and maxillary complex is the most frequent cause of orbital cellulitis. Chandler's classification system grades orbital cellultis in increasing severity as 1) preseptal cellulitis, 2)orbital cellulitis, 3)subperiosteal abscess, 4)orbital abscess, and 5)cavernous sinus thrombosis. Treatment consists of medical, surgical, and combined regimens depending on stages. In this article we had discussed about treatment aspects for two patients who had been presented in subperiostial abscess stage.**

**Case 1:**
**Report:**
2 Yr old child was referred to us with failed external drainage of subperiosteal orbital abscess. On clinical examination child had left periorbital swelling, erythema, chemosis and proptosis with external drain in situ (FIG 1). Since the child was not cooperative, visual acuity & fundoscopic examination could not be done. Extra-ocular muscle function was difficult to assess secondary to extreme periorbital swelling. Child had low-grade fever with a white blood cell (WBC) count of 18000. Otherwise, all vital signs and laboratory studies were within normal limits. Computed tomography (CT) scan revealed left-sided maxillary and ethmoid sinusitis, proptosis, and intraorbital air with evidence of medial & inferior aspect of subperiosteal abscess(FIG 2 & 3). Surgical intervention in the form of Transnasal endoscopic orbital decompression was planned.

**Case 2:**
**Report:**
15 Yr old boy was presented to us with worsening right periorbital swelling, erythema, chemosis and proptosis(FIG 5). The patient had headache, nasal congestion, rhinorrhea, and cough preceding the orbital symptoms. On examination complete ophthlmoplegia with decreased visual acuity was identified in the affected eye. MRI orbit revealed right-sided maxillary and ethmoid sinusitis, proptosis, and with evidence of medial & posterior aspect of subperiosteal abscess (FIG 6 & 7). Considering the severity of the disease Transnasal endoscopic orbital decompression was planned.

**Transnasal endoscopic orbital decompression :**

This procedure is performed under general anesthesia. The uncinate process is removed, and an adequate middle meatal antr-ostomy is performed with clearance of all pus from the maxillary sinus. Anterior and posterior ethmoidectomies are completed so that the lamina papyracea and skull base are clearly exposed. Freer elevator was used to make an opening in the inferior aspect of the lamina pappyracea bone. The opening was enlarged accordingly to permit drainage of the subperiosteal abscess, and appropriate cultures were obtained. In 2 yr old child lamina papyracea opening had to be more of medial & anterior aspect to drain the abscess, whereas in the second case more of medial & posterior aspect. Both the patients had faster recovery with marked improvement in extra ocular movements. They were discharged on 4 th post operative day with oral antibiotics as per culture & sensitivity reports.

**Discussion:**

Subperiosteal orbital abscess (SPOA) is defined as a purulent fluid collection between the periorbita and adjacent bony orbital wall. The incidence of an SPOA in orbital infections is about 15% in children. The close anatomic relation of the orbit to the paranasal sinuses pre-disposes to the contiguous spread of infection through the ophthalmic venous system, which anastomoses freely with the facial, pterygoid, and cranial venous system. Retrograde spread of infection can lead to complications such as endophthalmitis, cavernous sinus thrombosis, meningitis, brain abscess, or death. In the preantibiotic era, 20% of patients with peri-orbital cellulitis had permanent loss of vision, and 17% died from central nervous system complications. Today, despite antimicrobial 10% of patients with an SPOA develop various visual sequelae.

The management of an acute orbit depends on the cause and severity of infection. The typical presentation for preseptal cellulitis is inflammation of the eyelid, with-out proptosis or restriction of gaze. Orbital involvement could present as chemosis, proptosis, restriction of gaze, and visual changes. Preseptal cellulitis responds well to conservative management where as orbital involvement requires surgical intervention. The distinction between preseptal cellulitis and orbital involvement is important. Delay in treatment can result in blindness in patients with orbital abscess.

The advent and evolution of orbital imaging techniques in the past 2 decades have enhanced the diagnosis of an SPOA. The CT scan depicts a localized and homogeneous elevation of the periorbit adjacent to opacified sinuses. The classic CT appearance of an SPA is a convex low-density lesion with an enhancing rim next to the medial orbital wall. The presence of low density or air within the area is suggestive of abscess formation.

The common goals of surgical intervention are drainage of the abscess, decreasing intraocular pressure, and obtaining microbiologic data for culture-driven antibiotic therapy. Surgical drainage can be achieved through an external or endoscopic approach. External drainage of an SPOA through a Lynch incision has been the traditional approach. With advances in sinonasal surgery, transnasal endoscopic drainage of SPOAs has been popularized, as it reduces the necessity for an external incision and facilitates drainage of sinuses.

The advantages with the endoscopic approach are 1) that the sinuses that caused the orbital complication can be dealt with en route to the abscess, 2) that the orbital recovery is faster with less postoperative edema because less soft tissue dissection is required when compared with an external approach and 3) this approach also obviates the need for a facial incision and resulting scar.


Fig: 05

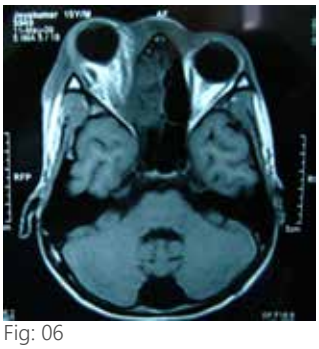


Fig: 06

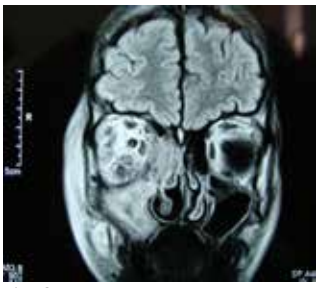


Fig: 07


Fig: 08

# BRONCHOSCOPIC EXCISION OF INTRALUMINAL BRONCHIAL CARCINOID

By
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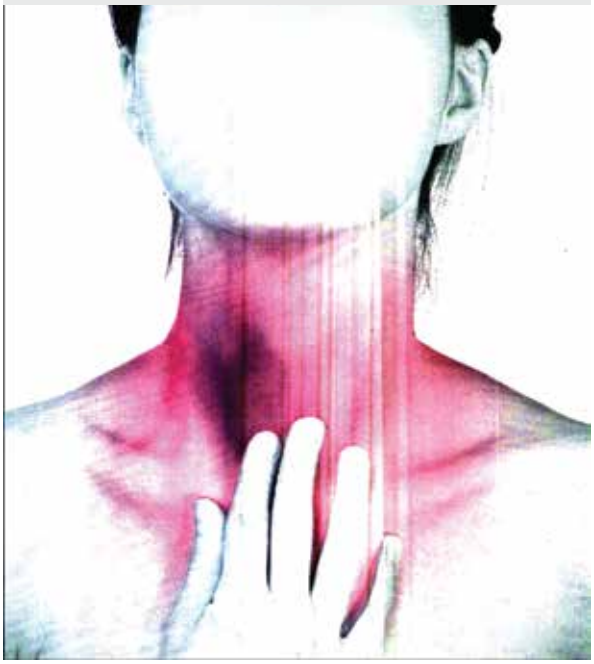
Carcinoid tumors are recognized as a low grade malignancy .We herein report a case of intraluminal bronchial typical carcinoid that was successfully removed using electrocautery by bronchoscopic approach.

Carcinoid tumours develop from stem cells of the bronchial epithelium known as Kulchitsky cells, which have neuroendocrine activity. These neuroendocrine cells can develop tumors in many different organs with most common being the lungs, the appendix, the small intestine (duodenum), the rectum and the pancreas. The most recent classification system from the World Health Organization categorized neuroendocrine pulmonary tumors in four types: typical carcinoid; atypical carcinoid (ATC); large cell neuroendocrine carcinoma; and small cell lung cancer .Carcinoid bronchopulmonary tumors represent approximately 25% of all carcinoid tumors and 1%–2% of all lung neoplasms. Approximately 70% of these tumors are located centrally in the large bronchial tubes leading to the lung, while 10%–20%, known as peripheral carcinoids, develop in the pulmonary periphery.

Typical bronchial carcinoids have a good prognosis with a 10-year survival rate of 90% compared with the atypical carcinoids that have a greater rate of metastasis and recurrence with a 10-year survival below 60%. We report a case bronchial of carcinoid in the right main bronchus causing collapse of right lung. The endobronchial resection via electrocautery resulted in complete removal of obstruction with an excellent result.



**Case report:**

58 Year old male presented with history of cough, dyspnoea on exertion and recurrent hemoptysis for 6 months duration. There was no history of chest pain, wheeze, and fever or weight loss. On physical examination he had decreased air entry on right lower hemithorax with dull note on percussion. Examinations of other systems were normal.

All routine laboratory investigations were within normal limits. The chest radiograph showed right middle & lower lobe collapse(Fig.1).Computed tomography(CT) of the chest revealed a rounded ,well defined endobronchial mass in the right main bronchus with collapse of right lung(Fig.2).Fiberoptic bronchoscopy showed smooth, rounded pedunculated mass in the right main bronchus approaching the carina almost completely occluding the bronchus(Fig.3) . The mass was mobile and attached to a peduncle. Histopathology of bronchoscopic biopsy revealed a carcinoid tumor.

A rigid bronchoscopy was inserted under general anesthesia using storz rigid bronchoscope.Electrocautery was performed on exophytic tumor tissue followed by mechanical removal (Fig.4). The mass was completely excised using electrocautery with immediate relief of symptoms without major complications.

**Discussion:**

Bronchial carcinoid tumors are rare low grade malignant tumors of the lung comprising about 1 to 2 % of pulmonary malignancies. Carcinoid bronchopulmonary tumors represent approximately 25 % all carcinoid tumors.
The patients with central lesions are more likely to be symptomatic on presentation. These symptoms include cough, hemoptysis, stridor, wheeze or post obstructive pneumonia. Symptoms of carcinoid syndrome are rare and seen only with atypical carcinoids that have liver metastasis. Fiberoptic bronchoscope plays a major role in diagnosis of carcinoids. The primary and most effective treatment for all pulmonary carcinoid tumors is surgical resection. There are a variety of resection techniques that treat lung carcinoids effectively. Presently the most commonly utilized resection procedure is lobectomy or pneumonectomy. The treatment is surgical with a focus on lung sparing or bronchoplastic surgery.
Interventional bronchoscopies such as laser bronchoscopy, electrocautery, brachytherapy and airway stents may also be performed in some cases. Electrocautery therapy can achieve immediate relief of symptoms from obstruction of airways. It's advantages include cost effectiveness, availability and fast removal.
In conclusion, bronchial carcinoid tumors are low grade malignant neoplasms with a good long term prognosis after surgical excision. The survival of patients with carcinoid tumor depends on the histological type and the presence of distant metastasis.

# NEURO SURGERY

By
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A 36 years old female a known case of open pulmonary tuberculosis started on ATT. After one month of ATT, the patient developed seizures and CT evaluation done showed multiple tuberculomas in brain. Steroids were given. On further treatment, the patient showed marginal improvement but developed weakness. Repeat imaging showed increase in size of the lesion in the right frontal region with extensive cortical and subcortical edema. The patient was planned for excisional biopsy of the lesion to confirm the diagnosis and also to rule out neurocysticercosis and other lesions. Ideally, it would be required a right frontal craniotomy of the neurocysticercosis and tumour excision. But with advent of newer technologies and Neuro Navigation, a large frontal craniotomy can be avoided. So with the Neuro Navigation's guidance even without scalp preparation, an incision of linear size of 4 cm was made in the right frontal region with precise localization. The pre-operative images of both MRI and CT scans which were fed into the Neuro Navigation console, guided in acute placement of the incision. This avoided in a large incision and gave good cosmetic results. Further a small 2 x 2 cm burr hole was made and the lesion was found exactly underneath the dura at the burr hole site. The lesion was excised totally. The patient showed rapid improvement and she was discharged the next day. A conventional neuro surgical management would have required a frontal craniotomy of minimum 6 x 7 cm and a large scar with scalp preparation. She would have needed a minimum of 3-4 days stay in the hospital with high dose analgesics for the craniotomy of that size. Post-operatively she would have had orbital swelling and other morbidities. With Neuro Navigation and image guidance, not only safe surgery was possible, but also it yielded the patient a good cosmetic and lesser morbid outcome.

Neuro Navigation equipment helps us in various brain tumour, spine tumours, spinal stabilization and functional neuro surgical procedures. Using image guidance, the lesion localization can be very precise and it gives us an idea about the extent of the section in certain tumours which do not have proper brain tumour interface. It is unnecessary to mention that post-operative morbidity and neuronal loss can be prevented. By limiting the incision and craniotomy, it is possible that neuro surgical procedure can be done as a day-care procedure. Heavy blood loss and post operative infection rates also comes down drastically. Neuro Navigation has been a boon for minimal invasive spine and brain surgeries. It is an essential to the Neurosurgical field for the future.

# Stenting of the Patent Ductus Arteriosus – a safer alternative to BT shunts for newborn babies

By
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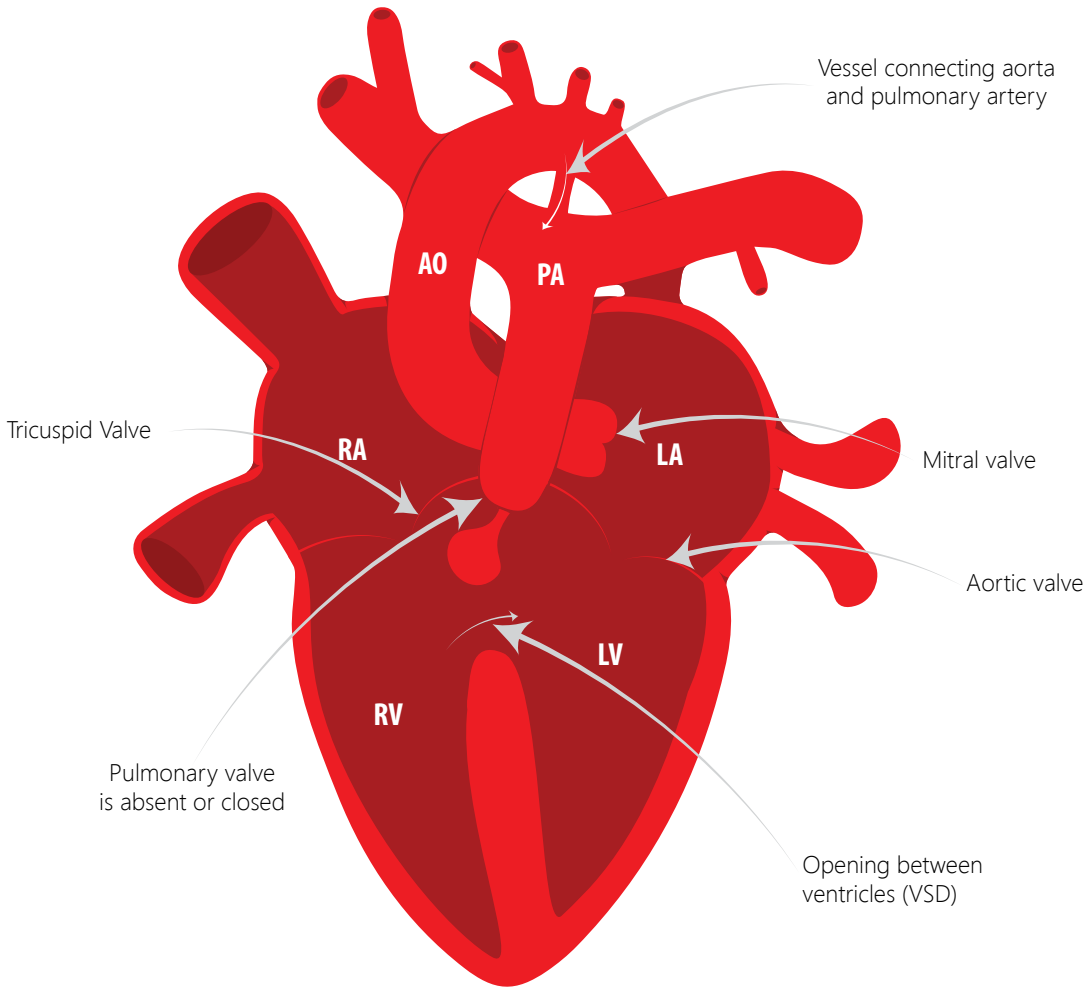
Baby K, a male neonate born in Kovilpatti and weighing 2.4 kg, was referred to Kauvery Hospital, Chennai at the age of 16 days with a diagnosis of Tetralogy of Fallot with Pulmonary atresia and duct dependant pulmonary circulation (Fig-1). The saturation at the time of admission was 75% and Prostaglandin infusion was initiated to ensure patent ductus arteriosus(PDA) remains open as it is the only means by which the lungs are perfused.

Fig-1: PDA denoted as the vessel connecting aorta and pulmonary artery is the only means of pulmonary perfusion



The conventional form of management of such babies with complex cyanotic duct dependant congenital heart disease would be to surgically place a Blalock-Taussig (BT) shunt. This is usually a 4 or 5mm Goretex tube placed between the subclavian artery and the pulmonary artery branch (Fig-2) usually through a posterolateral thoracotomy. This systemic to pulmonary shunt ensures sustained pulmonary perfusion even in the absence of the PDA, allowing the baby to grow and come later for the subsequent surgical repairs.

However, posterior thoracotomy as well as BT shunt poses problems in neonates, particularly very small babies, by postoperatively compromising their breathing and infrequently, acute thrombosis of the shunt. For this reason, it was decided not to subject this baby to a surgical intervention and instead stent the PDA by the percutaneous route using a 3.5mm wide and 12mm long coronary stent in the catheterization laboratory under general anaesthesia.
Percutaneous access to the right femoral vein was obtained with a 5 Fr valved sheath. A 5Fr catheter was passed through this sheath in to the femoral vein and from there to IVC, to RA, to RV and across the VSD in to the aorta and in to the PDA and an angiogram done. This revealed a tortuous vertical ductus perfusing good sized pulmonary confluence (Fig-3). The prostaglandin infusion was stopped just before the procedure to facilitate ductal constriction since a dilated ductus would not allow safe stent placement. A 5Fr guiding catheter was advanced across the ductus over a 014 wire and through this catheter the balloon mounted stent is advanced to position across the ductus and inflated (Fig-4).

The baby was discharged after 3 days on oral low dose aspirin with a resting saturation of 82%. Follow up a month later revealed widely patent stent across the ductus with maintenance of saturation above eighty percent.

Ductal stenting is a better alternative to conventional surgical systemic to pulmonary shunt placements as it avoids the complications associated with thoracic surgery in a small baby. Careful planning and judicious vascular access such as avoiding femoral arterial route and using the femoral venous route instead contributes to significantly less morbidities associated with vascular injuries. The currently available premounted balloon inflatable stents have a low profile allowing delivery through small catheters and this enhances the success of these procedures.

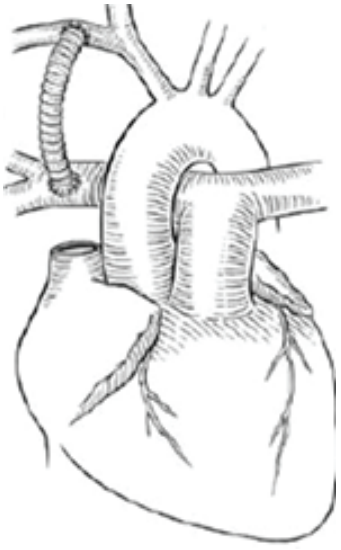


Fig-2: Right Modified BT shunt

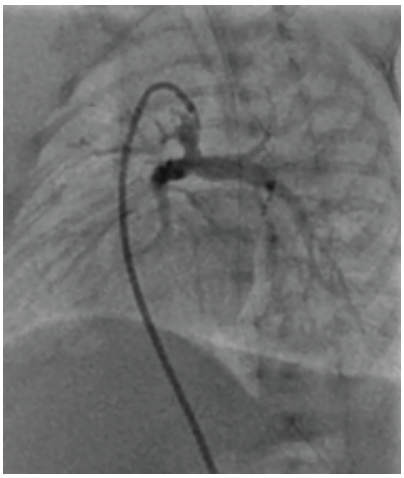


Fig 3: Selective Duct Injection

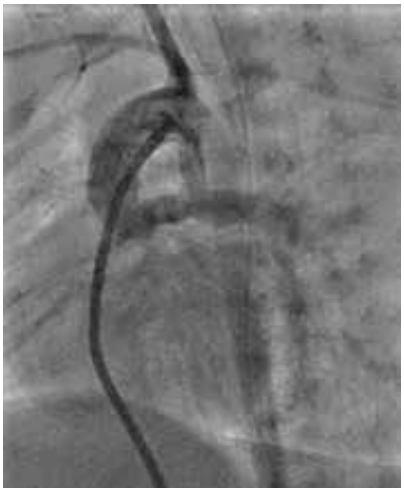


Fig 4: Aortogram after ductal stenting

# Capsule endoscopy

By
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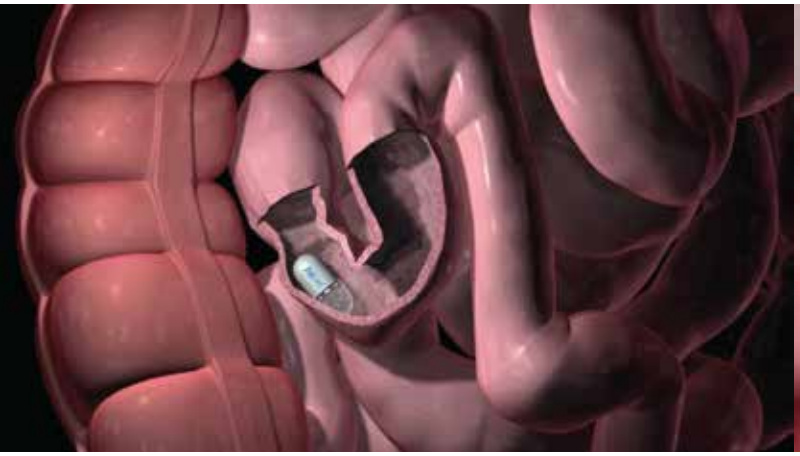
Kauvery Hospital, Chennai



A capsule endoscopy is usually a procedure used to examine the small bowel and if needed large bowel also, in patients not fit for routine endoscopy (cardiac and lung problem) and for those who doesn't want an invasive procedure for diagnostic or screening process. It is a relatively new and non-invasive way of imaging the intestine involving an electronic, pill-sized, photographic camera inside a small capsule measuring 11 x 26mm to 11 x 32mm, which is just of the size of a large vitamin capsule.

The capsule is swallowed and takes pictures of the small bowel and if needed (in select cases) the large bowel, at a rate of 4-36 frames/sec. Now-a-days the angle of view is 156°-172°= that is 21% wider with latest cameras. This takes continuous images during its passage down the small bowel and large bowel (in select cases). The images are recorded and stored in a reader that is worn on a belt around the patient's waist (sensor belt or data recorder not to be removed at any time during the test). Powerful electromagnetic field, such as one created near an MRI or portable radios needs to be avoided during the procedure. The capsule has an 8-10 hour battery life and passes naturally through the body with no need for retrieval.

Patient has to stop any iron supplements or vitamins containing iron four days prior to the procedure. Medications that alter intestinal motility should be stopped. This first appointment lasts approximately half an hour, after which patient can be discharged and encouraged to go about your daily routine. Patient can usually drink after two hours and have a light snack after four hours of swallowing the capsule. Patient has to return the belt and recorder either that evening or the following morning.

It is most commonly performed for obscure gastrointestinal bleeding and obscure abdominal pain. A variety of lesions identified as cause of bleeding may include: Erosions, Hereditary conditions (rare), Inflammation, Masses, Tumors, Ulcerations, Crohn's Disease, Tumors, Celiac Disease.

For colonoscopy, preparation is required unlike small bowel study. Clear liquid diet has to be taken the day before. In the evening 3 liters of PEG solution to be taken. 1-L PEG solution at 06:00am and 07:00am on the day of the procedure. Prokinetic is given to enhance progression of the capsule to the colon quickly. After 2hrs 45-ml of Sodium Phosphate solution provides residual clear liquid "submarine view". The capsule is active for 5 minutes for esophageal and stomach visualization. Then it goes for a transition sleep mode for 2 hours, after which it becomes active.

Indications:
1) In incomplete or difficult colonoscopy

2) Contraindication to colonoscopy

3) In unwilling patients to undergo the procedure.

Contraindications:
1) Bowel obstruction, strictures and fistula.
2) Pregnancy
3) Gastroparesis
4) Swallowing disorder.

Polyp identification:

# Paediatric Septic Arthritis of ankle due to Granulicatella adiacens, the first case ever reported in the world literature.

Dr. Manisha J Kumar, Consultant Orthopaedician,
Dr S Chockalingam, Consultant Orthopaedician,
Dr D Senguttuvan, Consultant Paediatrician,
Dr Thilagavathy, Consultant Microbiologist,
Kauvery Hospital, Trichy

Septic arthritis is an orthopaedic surgical emergency, which when treated in a timely manner and supplemented with appropriate medical management, has a good prognosis. The cornerstone of all treatment protocols remains the isolation of the causative organism. Literature has documented the common causes of septic arthritis in children. We report a rare organism, Granulicatella adiacens, to cause septic arthritis in a native joint. We also recommend a change in the practice of collection of specimens in order to increase the possibility of getting a positive culture, and therefore ideal management. The overall morbidity, duration of treatment required and the overall treatment of the disease can be streamlined with the identification of the causative organism.

Septic arthritis is a bacterial infection of a joint with involvement of synovial tissue and fluid. It is an Orthopaedic Surgical emergency. There is a brief period following the onset of symptoms, when the disease may be completely cured by prompt administration of the right antibiotic in the adequate dose [1]. Any delay in diagnosis and treatment may result in destruction of articular cartilage and bone [2]. This condition is common in children, probably due to the immature immune system. Even though Septic arthritis incidence is decreasing worldwide, it is fairly common to encounter this condition in India.

In our centre, the Paediatric unit treats ~15535 children and neonates between 2011 – 2015 children as outpatients. We encounter around five to six cases of septic arthritis in a year.

Bacteriological isolation from the affected joint has always been our prime objective. This is often obtained by either open or arthroscopic drainage. The procedure also ensures thorough washout of the joint to remove all infected materials and the destructive enzymes produced in the process.

The bacteriological growth in our previous study is as shown below.

| | |
|---|---|
| Candida | 5 |
| MRSA | 3 |
| MSSA | 3 |
| B hemolytic Strep | 2 |
| Pseudomonas | 2 |
| Achromobacter | 1 |
| Klebsiella MDR | 1 |
| atypical AFB1 | 1 |

As one can see, the predominant organisms are Staphylococcus and Candida. However, rare organisms are also seen. We would like to report this child with septic arthritis due to one such rare organism.

**Case Report:**

8 month old female child, previously walking with support, presented with low grade fever and swelling around the ankle and inability to move the ankle and foot due to pain and inability to weight bear. Clinical examination showed the ankle to be swollen with warmth and tenderness. A clinical diagnosis of Infective process involving the ankle joint and possibly abscess was made. The blood results were as follows:

| TEST | RESULT |
|---|---|
| Total count | 22500 |
| Differential count | |
| Polymorphonuclear cells | 51% |
| Lymphocytes | 45% |
| Monocytes | 3% |
| Eosinophils | 1% |
| CRP | 110.69 |

Ultrasound of the ankle showed significant effusion with normal findings on the other side [fig 1 and 2].

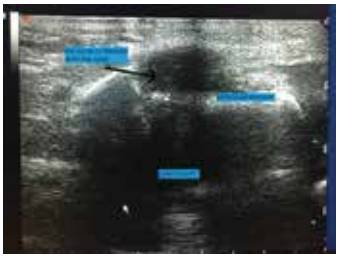


Fig 1. Ultrasound image showing effusion extending into the joint

Fig 2. Effusion anterior to the talar margin

Fig 3. 3ml of frank pus being aspirated from the ankle joint prior to washout

Fig 4. Arthroscopic images of washout showing cloudy synovial fluid and inflamed synovium

With a provisional diagnosis of infective arthritis of the ankle made, a decision was made to proceed with arthroscopic washout of the ankle. The child was given regional anaesthesia with sedation. The affected leg was prepared with aseptic precautions, draped. Ankle joint was aspirated and three milliliter of frank pus was obtained. This specimen was directly placed in the blood culture bottles.

Ankle joint was scoped with 2.4mm mini scope. Ankle synovitis was noted and further specimens were obtained by arthroscopic biopsy of the synovial tissue. Antibiotics Ampicillin and Cloxacillin were subsequently given in the operating room.

The portal sites dressings were applied. The ankle joint was immobilized in plaster of paris bandage. The child showed a good clinical improvement. The child started weight bearing on the affected side in three days without any pain. The wound was inspected and was found to be healthy. The C reactive protein dropped to 24 on day 3 post operatively from the preoperative value of 110.69, the normal range below 6. The CRP returned to a normal of 2.63 on day 10 post operatively.

Culture specimens, which were directly inoculated into the culture bottles, grew cocci which initially mimicked pneumococci, but was subsequently recognized as Granulicatella Adiacens. The sensitivity pattern is as shown.

| **Antibiotic** | **Sensitivity** |
|---|---|
| Penicillin | S |
| Ampillin | S |
| Amoxicillin | S |
| Amoxyclav | S |
| Azithromycin | S |
| Erythromycin | S |
| Clindamycin | S |
| Vancomycin | S |
| Tigecycline | S |
| Chlorampenicol | S |
| Cefepime | S |
| Cefotaxime | S |
| Ceftriaxone | S |

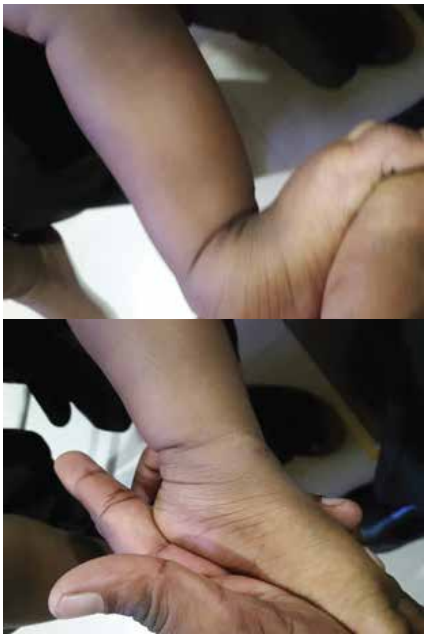


Fig 5. Post operative Range of Movement

Synovial tissue and blood cultures along with gram stain were also sent. Final reports of all the above was negative for any growth. With the infective organism kept in mind, a screening echo was done and found to be negative for infective endocarditis.

# A Dangerous Misdiagnosis -Averted in Time

Dr. Susila Krishnan
Senior Consultant Radiologist,
Kauvery Hospital, Chennai.

A 79 year old gentleman, presented with h/o poor oral intake for the past two weeks associated with generalized fatigue and tiredness for 2weeks duration. He was a known diabetic with dyslipidemia.

He complained of intermittent, low grade fever for the past 3 days. There was a history of recent fall due to fatigue 2 weeks ago and on evaluation at an outside hospital, was diagnosed to have iron deficiency anemia (Hb 7.5gm/dl). He was given two units PRBC transfusion. Repeat Hb after transfusion read 9.3gm/dl. There was no h/o hematuria, loin pain, low backache, loss of weight, dysuria or urgency of micturition. Incidentally on evaluation, urine R/E showed plenty of pus cells with bacteria.

USG abdomen done outside showed fatty liver, GB calculi, irregular ill defined mass with central necrosis in the interpolar area of the right kidney, left renal microliths, left renal cysts and enlarged prostate.

Outside CT was also performed which reported ill defined nodular irregular mass with central necrosis in the interpolar region of the right kidney suggestive of RCC. He was advised nephrectomy. Patient came to our hospital to confirm the same and have the surgery done.

Lab investigations revealed elevated urea, creatinine, elevated total count, elevated ESR and low Hb. Urine R/E showed 8-10 pus cells, 4-6 epithelial cells.

Urine culture showed growth of Ecoli. Blood culture showed no growth. Ultrasound showed an ill-defined hypoechoic area in the medial aspect of the right kidney involving the mid and lower pole regions, with multiple air shadows. There was no hydronephrosis or renal calculi. Left kidney showed increased cortical echoes and calculus.

The findings were not in favor of RCC, but rather indicative of an inflammatory process. A diagnosis of renal abscess with perinephric extension was given, based on the USG findings alone. CT was performed as part of completion of the diagnostic work up which confirmed the USG findings.

Fig1-3: USG of right kidney showing hypoechoic collection in the mid and lower pole with multiple air pockets.

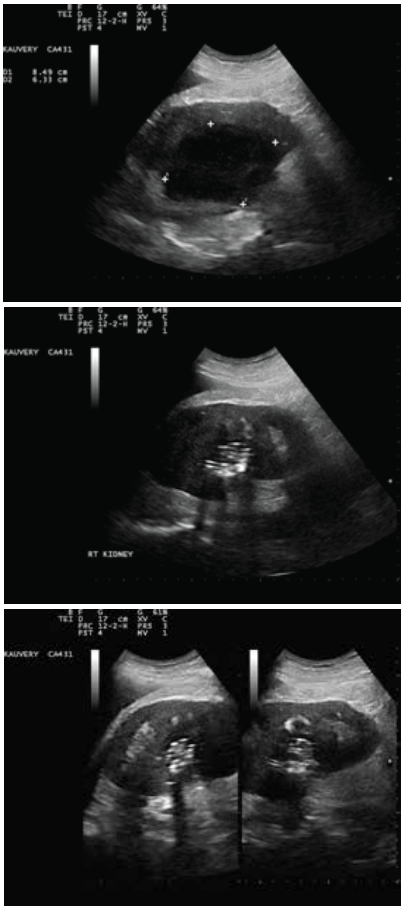
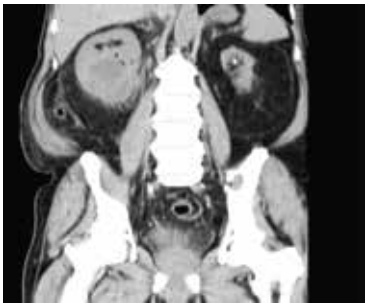
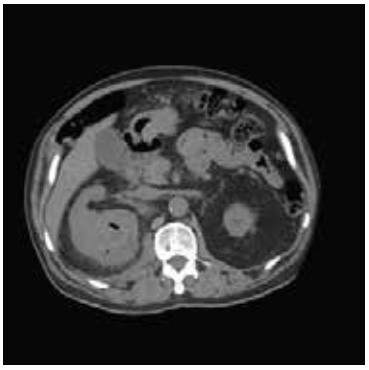


Fig 4-6: CT images showing the collection with air pockets, perinephric extension and perirenal inflammatory changes around the right kidney. Left kidney is contracted with calculus.





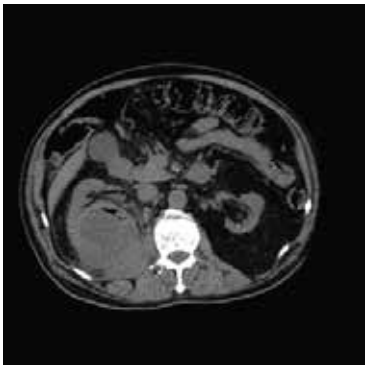
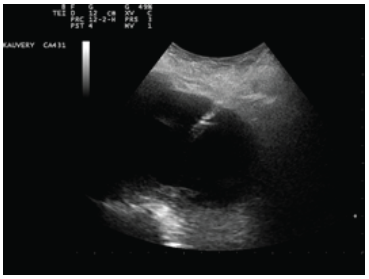
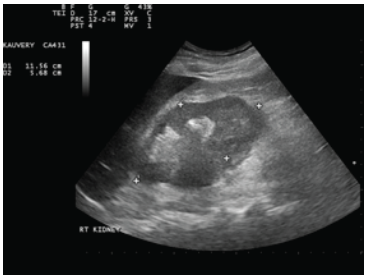
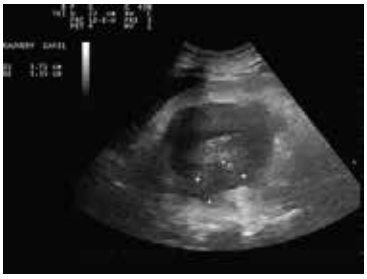


Fig 7: Drainage catheter being inserted into the collection under ultrasound guidance.



After the required blood investigations were cleared, under ultrasound guidance right renal abscess was localized and a 10F pigtail catheter was inserted into the abscess cavity. Frank pus was drained and sample sent for HPE. Drainage fluid culture showed growth of Ecoli.





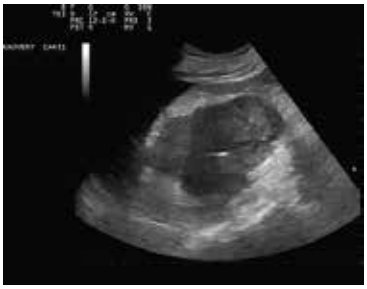


Fig 8-10: Repeat ultrasound two days later showed small residual collection with minimal air shadow.

Follow up USG two days later showed significant reduction in the abscess with residual collection in the lower pole region. Patient was managed conservatively with antibiotics and discharged as his constitutional symptoms improved. Further follow up ultrasound examinations after discharge showed complete resolution of abscess.

With increasing dependence upon radiology as the final step before decisive action, the focus is on diagnostic imaging. The consequences of losing the involved kidney due to misdiagnosis of a conservatively manageable benign condition in view of the other kidney already in chronic pyelonephritis; needs no explanantion.

There is growing apprehension that radiology practice is becoming more and more economy centered. Subjecting patients to high end imaging does not always guarantee 100% accurate results as this case highlights. It is thus imperative that the radiologist not only be equipped with the right skill set but also tailor the imaging study and interpret the same in conjunction with the clinical scenario.

# Glucose-6-phosphate dehydrogenase deficiency G6PD deficiency

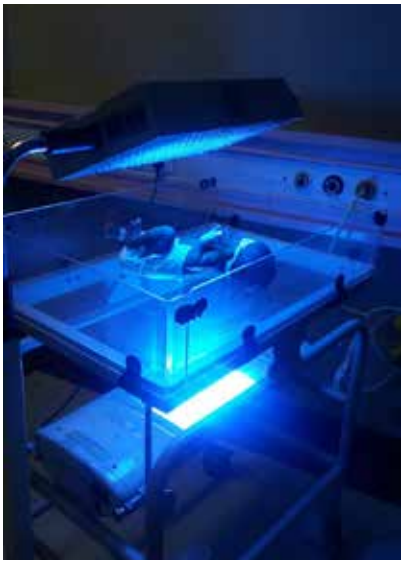
Dr. Senthilkumar K.
Consultant Neonatologist,
Kauvery Hospital, Cantonment, Trichy

3 days old boy baby born to 3 rd degree consanguineous parents by normal vaginal delivery admitted for neonatal hyperbilirubinemia. On examination baby is 40 weeks, small for gestational age, Intrauterine growth restriction, had icterus up to soles and there is no hepatosplenomegaly or pallor. Neonatal reflexes are normal, baby behavior state, respiration & perfusion are good. Baby was treated with double surface phototherapy. Initial Investigations showed Serum bilirubin of 24mg/dl and there is no blood group incompatibility. As baby is active, BIND score is 0/9, serum bilirubin value below exchange range, Normal bilirubin albumin ratio, we continued double surface phototherapy and started on Fluid therapy. Repeat serum bilirubin after 6hrs and 12hrs of double surface phototherapy were 23.4mg/dl & 23mg/dl.

Next level Investigations of Complete blood count, peripheral smear, Reticulocyte count, coombs test, Urea, creatinine, electrolytes & C-Reactive protein were normal.

Since the bilirubin values not reduced with double surface phototherapy and fluid therapy in a boy baby with 3 rd degree consanguineous parents with no blood group incompatibility and no evidence of hemolysis, we suspect G6PD deficiency and investigated for G6PD level which was low and we continued double surface phototherapy. Subsequently serum bilirubin level was low and started on Direct breast feeding. Baby improved, last serum bilirubin value was 4.5mg/dl. After a proper counselling of parents regarding the medications / chemicals that should be avoid during the life period, Baby was discharged on day 5 th of admission.

Glucose-6-phosphate dehydrogenase deficiency G6PD deficiency is seen in all ethnic groups but has a high prevalence in individuals from central Africa (20%) and the Mediterranean (10%). The G6PD gene is on the X chromosome and therefore most affected neonates are boys. In neonatal G6PD deficiency, jaundice usually presents within the first few days of life and is often severe; anaemia is extremely rare and the blood film is completely normal, thus the diagnosis must be made by assaying G6PD on a peripheral blood sample . Only some, G6PD-deficient neonates develop neonatal jaundice. since most babies with G6PD deficiency have no evidence of haemolysis. The most important management issues in neonatal G6PD deficiency are close monitoring of the bilirubin, particularly where interactions with other risk factors for neonatal hyperbilirubinaemia are present, such as Gilbert syndrome or hereditary spherocytosis, since kernicterus has been reported in this setting and counselling parents of affected babies about which medicines, chemicals and foods may precipitate haemolysis . If exchange transfusion is required for severe hyperbilirubinaemia, conventional guidelines for exchange transfusion can be followed . However, for the vast majority of patients there is no chronic haemolysis and no anaemia and therefore folic acid supplements are not indicated.



| Antimalarials | Antibiotics | Analgesics | Chemicals |
|---|---|---|---|
| Primaquine<br>Pamaquine<br>(Quinine)*<br>(Chloroquine)* | Nitrofurantoin<br>Sulphones, e.g. dapsone<br>Sulphonamides,** e.g. sulphamethoxazole (Septrin)<br>Quinolones, e.g. nalidixic acid, ciprofloxacin<br>(Chloramphenicol)^ | Aspirin (in high doses)<br>Phenacetin | Naphthalene (mothballs)<br>Divicine (fava beans-also known as broad beans)<br>Methylene blue |

* Acceptable in acute malaria.
** Some sulphonamidas do not cause haemolysis in most G6PD-deficient patients, e.g. sulfadiazine
^ To be avoided in some types of G6PD deficiency (can be taken by patients with the common, African A-form of G6PD deficiency).

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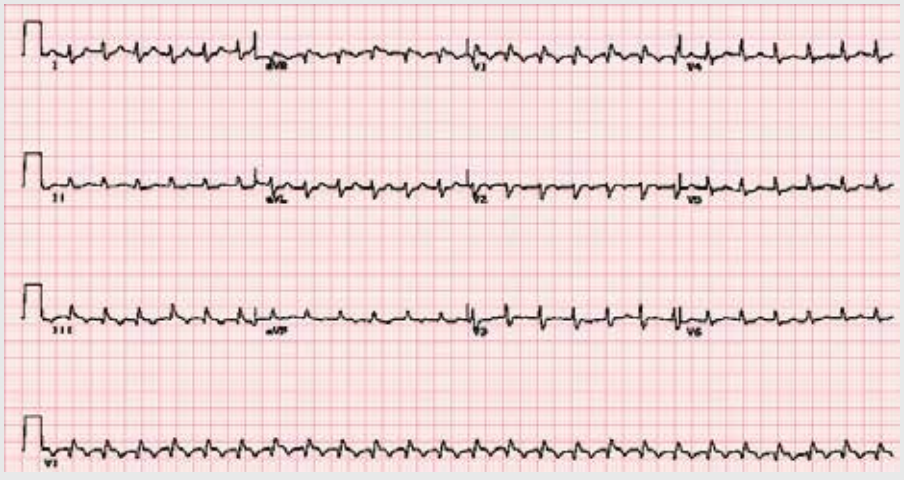
# Fresh Corn Salad

**Ingredients**

5 Ears of corn, shucked
1/2 Cup small-diced red onion (1 small onion)
3 Tablespoons cider vinegar
3 Tablespoons good olive oil
1/2 Teaspoon kosher salt
1/2 Teaspoon freshly ground black pepper
1/2 Cup julienned fresh basil leaves

**Directions**

In a large pot of boiling salted water, cook the corn for 3 minutes until the starchiness is just gone. Drain and immerse it in ice water to stop the cooking and to set the colour. When the corn is cool, cut the kernels off the cob, cutting close to the cob. Toss the kernels in a large bowl with the red onions, vinegar, olive oil, salt, and pepper. Just before serving, toss in the fresh basil. Taste for seasoning and serve cold or at room temperature.



## QUIZ COMPETITION

Question:
This is of a 48 years old female with history of acute chest pain and breathlessness. What is the diagnosis.

Previous Issue's Question & Answer
Chronic alcoholic patient with recurrent abdominal pain. Now presented with high grade fever, abdominal pain and toxic symptoms. What is the diagnosis?
Pancreatic necrosis with abscess

And the winner is
Dr. Agnetia Vinoth A.
Trichy

Winner of the January Issue Dr. Sivagnanam, Trichy

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