VOLUME - 16 | ISSUE - 02 | APRIL 2016

kauvery

CAPSULE

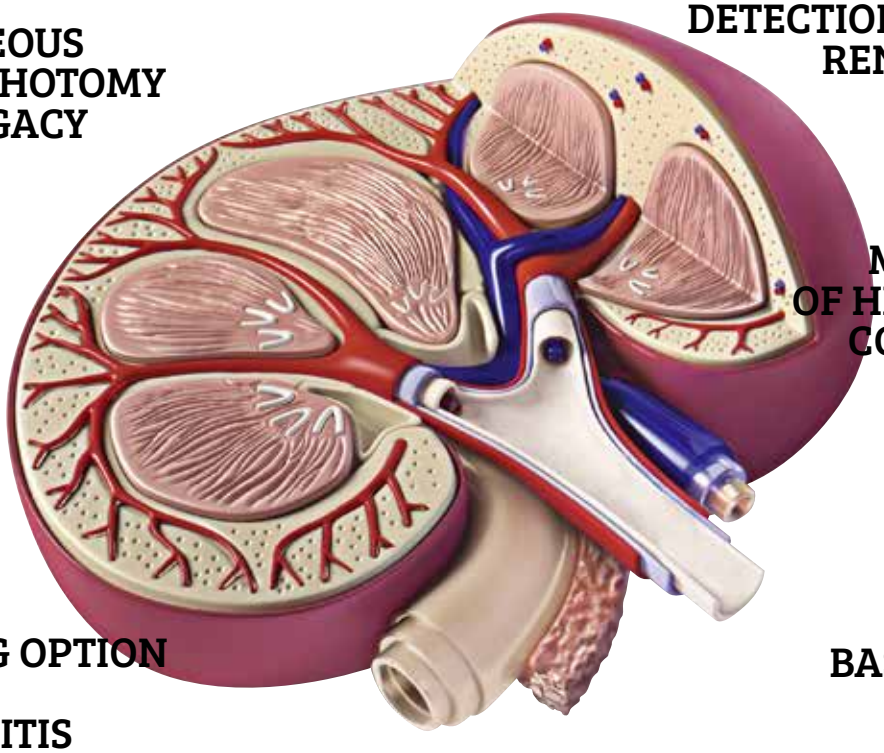
Medi Magazine
A quarterly magazine
from
kauvery hospital

TRICEPS TENDON RUPTURE IN CHRONIC ELBOW DISLOCATION

NEONATAL DIABETES MELLITUS

PERCUTANEOUS NEPHROLITHOTOMY AND ITS LEGACY

DETECTION OF PRIMARY RENAL TUMOURS



MANAGEMENT OF HIGH CERVICAL CORD DUMBELL TUMOUR

KIDNEY FRIENDLY RECIPE

ENDONASAL EXTENDED ENDOSKULL BASE APPROACH

LIFE SAVING OPTION IN ACUTE CHOLECYSTITIS

ATRIAL SEPTAL DEFECT (ASD)

To download
this magazine
scan this QR Code
with QR scanner APP
in your smartphone

CAPSULE MAGAZINE

Capsule Magazine is published by Kauvery Hospital

EDITORIAL OFFICE
Kauvery Hospital
VI Floor, Administrative Office,
#6, Royal Road, Cantonment,
Tiruchirappalli-620001.
Call us at (431) 40 77 777
E: capsule@kauveryhospital. com
W: www. kauveryhospital. com

FROM THE EDITOR'S DESK

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

Dear Readers,
I welcome you to the —th edition of CAPSULE. During the month of Feb - 2016, Kauvery Hospital celebrated its 17th Birthday. The 17th Annual day was celebrated with great enthusiasm by all our employees and their Family. The theme was 'Patient Delight experience', so with relevance to the patient delight experience I would like to share this article.

Five Things Health Care Organization can learn from Disney.
Disney and healthcare are worlds apart in their product offering and purpose. While health care is largely a utilitarian service offering (ie, patient need a problem to be resolved,) guest visit Disney park seeking an exciting, carefree experience. Despite the obvious differences, success can be measured similarly
The Focus on the guest experience has to become a living, breathing part of an organization for it to be successful; having it as another bullet on a company mission statement will not produce the desired effect.

Understanding the guest: The foundation for providing a great experience starts with understanding the guest. At Disney park, the cast members have Risen through the ranks and started on the front lines. This gives cast members an intimate knowledge of the guest because they worked face to face with guest on a daily basis.

Everyone is a performer: The performance is not too complicated. Be friendly and attentive, and treat the guest with courtesy and respect while performing Job functions. This is accomplished through giving the guest undivided attention, making eye contact, smiling, communicating clearly, understanding and anticipating needs and resolving guest's concern.

Seeking out interactions: A simple example of a story of security guard at the park who delighted a young girl dressed like a princess by asking her to sign his Autograph book as if she were a real princess. It was a simple interaction, but the effect on the girl and her family was powerful. This security guard is perfect example of an employee who actively looks for opportunities to make a guest feel special.

Owning the guest: Upon arriving on a Disney property, guests are not passed on to some one else. The important distinction is to remember that guests are not a burden or an interruption of work but rather the entire reason for the Job.

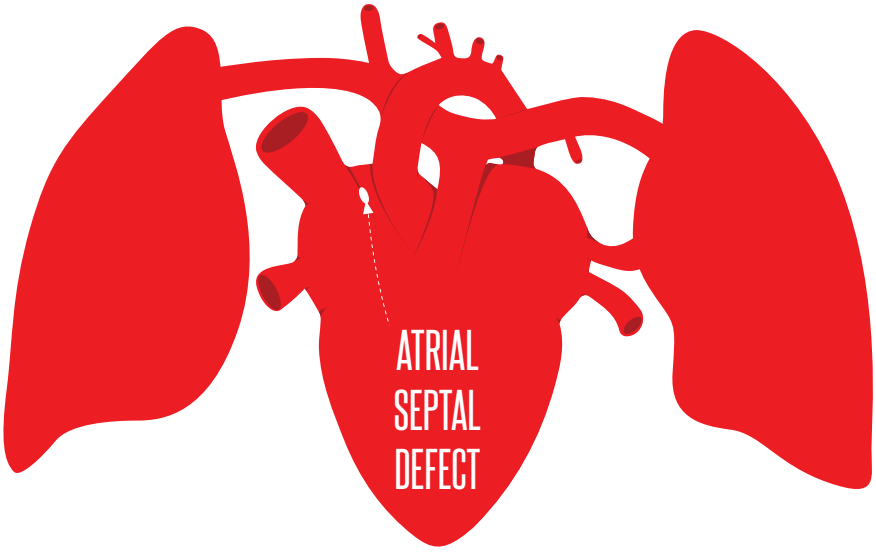
Accountability: Another important component in ensuring great service is the establishment of a measurement system that actively collects and even solicits feedback from guest and peer cast members, in an unbiased manner. Disney uses this information to celebrate the great service given by cast members via public acknowledgement and service awards.

I strongly feel that these five things if incorporated in any Hospital can provide a delight experience to the patient instead of satisfaction.

The key take home message is to not presume to know what the patient wants; find out who the patient is and what his/her wants and Needs are, and how best to meet them.

Atrial Septal Defect (ASD)

By
Dr. R. Prem Sekar
Senior Consultant
Interventional Paediatric Cardiologist
Kauvery Hospital, Chennai



Atrial Septal defect (ASD), is a hole in the partition (septum) between the two upper chambers (atria) of the heart. Over the years this hole can cause additional blood flow to the lungs along with significant enlargement of the right half of the heart. This can result in the patient experiencing breathlessness, easy fatiguability, palpitations and occasionally chest pain.

Narmadha, a female child, 14 years of age was apparently without any health related problems until 4 weeks ago. All of a sudden she experienced palpitations and giddiness while in school. Her mother who is raising Narmadha by herself rushed to the school and took her to a nearby doctor, who listened to Narmadha`s heart with a stethescope and found an additional abnormal sound in the form of a murmur. An echocardiogram was done revealing that Narmadha had a large hole in her heart (ASD) which has resulted in swelling of the heart and excessive blood flow to the lungs. She was referred to the paediatric cardiology department at Kauvery Hospital on 3rd July 2015 for management of the same.

After detailed evaluation Narmadha was admitted in the pediatric cardiology ward at Kauvery Hospital on 6th July 2015. On 7th July she was wheeled into the catheterisation laboratory. Under local anaesthesia, a small needle puncture was made in the groin and a small tube called a catheter was introduced into the vein in the groin and guided to the heart and positioned across the hole in the heart. Through this catheter, a septal occluder was positioned across the hole completely closing the hole and shutting off the abnormal, additional blood flow to the lungs. Throughout the procedure which lasted 30 minutes, Narmadha was awake and bravely took in all the happenings. Soon after the procedure, the tube from her groin was removed and she was shifted to be with her mother for the night.

Narmadha underwent a repeat echocardiography, ECG and Chest X-Ray the following day which confirmed perfect placement of the septal occluder with no residual shunt across the atrial septum. She was then discharged home on a low dose aspirin for a period of 6 months and advice to exercise & play freely.

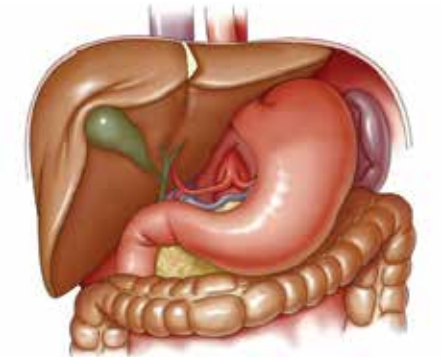
Device closure of holes in the heart is a revolutionary technique to manage holes in the heart like ASD, VSD, PDA, fistulas and other communications. The biggest advantage of the procedure is that it is Scar free, hospitalisation is limited to 2-3 days, there is no need for blood transfusions and in older children can be done without general anesthesia.
Narmadha and her mother were both very happy having her heart cured for life without a visible scar which is considered a big taboo in this part of the world.

Life saving option in Acute Cholecystitis of critically ill patients

-USG Guided Percutaneous Transhepatic Cholecystostomy (**PTHC**) Using Single Puncture Trocar Technique.

By
Dr. V. Senthilvelmurugan
Sr. Consultant Radiologist

Dr. S. Velmurugan
Sr. Consultant surgical gastroenterologist
Kauvery Hospital, Trichy



In our hospital, during the past 2 years we have done 21 PTHC for acute calculus cholecystitis for critically ill patients who were not fit for surgery due to various reasons in their index admission. All patients had imaging evidence of acute cholecystitis with features of sepsis. The aim of doing PTHC was to relieve sepsis and stabilize patient before the definitive surgical procedure. There is no specific contraindication for this procedure.

Procedure: Procedure should be done in an intensive care setting with monitoring of vital signs. Pre procedural evaluation should include CBC and coagulation profile (PT,PTT and INR). If the coagulation profile is altered it should be corrected before the procedure appropriately.

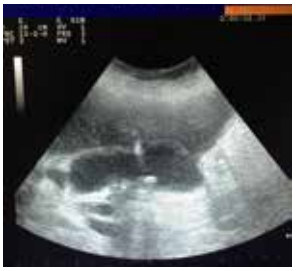
Preliminary USG was was identified done and shortest route through liver with minimal trauma. Under aseptic precautions with adequate local anesthesia, small incision with 11 blade was made. Either 8 or 12 F size pigtail catheters were used. All patients underwent the procedure by single puncture Trocar technique.

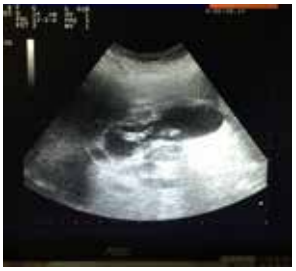
The single puncture pigtail catheter set consists of Pigtail catheter, Needle and cannula / trocar. Under USG guidance, pigtail set was introduced into gall bladder lumen through the liver until the tip was visualised. The needle was taken out and aspiration done using the syringe. The position was confirmed by aspiration of pus or infected bile. Then the cannula was descrewed from the catheter, while the catheter was simultaneously introduced inside further. The catheter was fixed with skin stay sutures and connected to continuous drainage bag. In all cases, pus was sent for culture and sensitivity. Initially broad spectrum antibiotics were given and then tailored down according to culture.

Results: All patients became better and showed significant clinical improvement within 24 hours. At discharge, patients were sent home with the PTHC catheter unclamped, for continued drainage. Interval cholecystectomy was done after 4-6weeks of PTHC. All patients underwent laparascopic cholecystectomy without any conversion to open procedure. The presence of PTHC catheter did not make the surgical procedure more difficult, but it actually helped in reducing the inflammation and adhesions and also in holding the gall bladder up so that there was no need for fundal traction. The PTHC catheter was removed towards the end of cholecystectomy during gall bladder bed dissection. In all patients, sub-hepatic drain was kept and this was removed after 48hours if there was no bile or blood in it. None of the patients had bile leak (or) bleeding and had a smooth uneventful recovery.

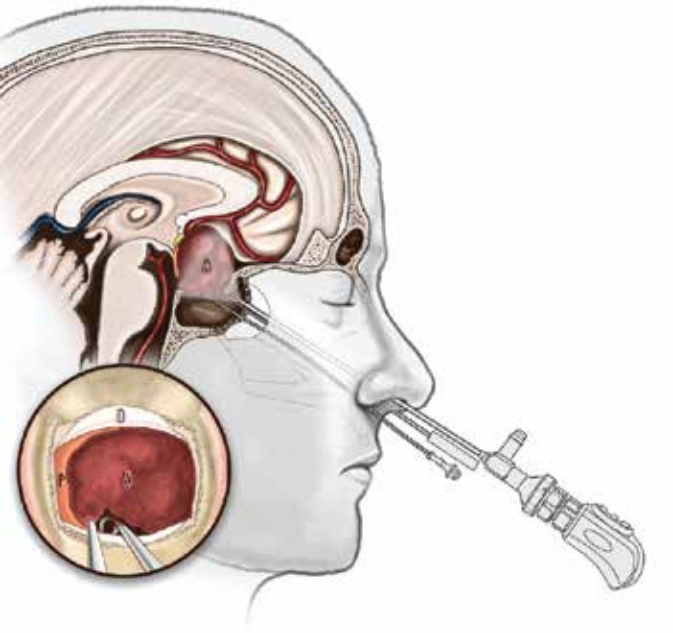
Discussion: Using single puncture Trocar technique is simple and less traumatising than Seldinger technique. Transhepatic route is advantageous than transperitoneal route in avoiding slippage of catheter and peritoneal spillage. All cases underwent PTHC with ultrasonogram guidance which is unique when comparing literature where at least few reported cases needed CT scan. It is an added advantage that there is no need to shift these critically ill patients to radiology as this procedure can be done using bedside USG alone.

Conclusion: PTHC is a life saving procedure in all critically ill, unfit patients who present with acute severe cholecystitis and associated sepsis. This procedure helps to relieve their sepsis and optimize them so that a delayed laparoscopic cholecystectomy can be performed safely.





To watch the procedure's video scan this QR Code through the QR scanner APP in your smartphone



Endonasal extended endoskull base approach

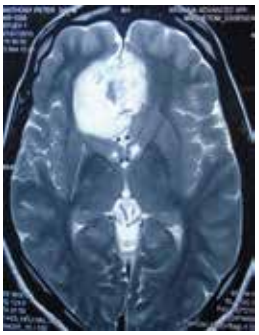
By
Dr. G. Jos Jasper
Head of the Department
Kauvery Brain & Spine Centre
Cantonment, Trichy

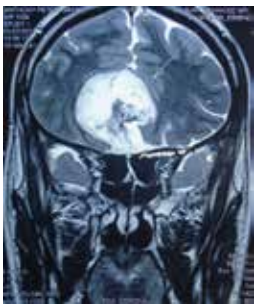
Patient Mr. K. Antony Peter, a 34 years old male came to our hospital in July 2013 with complaints of seizures for the past five years and giddiness + vomiting along for the past one week. As per the history given by his relatives, he had behavioral changes too in the recent past as he was totally apathetic with no interest in either maintaining social/domestic relationship. He was also not employed and showed no interest to go to any job.

On examination, his radiological investigations revealed evidence of anterior interhemispheric space occupying lesion epidermoid cyst. Hence he was advised for surgical management of the tumour. After explaining the details of the procedure to the patient's wife and his relatives he underwent a surgery. Instead of approaching the tumour transcranially, he underwent the surgery through endonasal extended endoskull base approach with excision of the tumour on 10. 7. 2013.

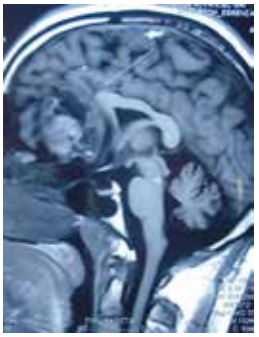
After the procedure he showed a remarkable improvement both in his clinical status as well as behavioural activities. Since the surgery the patient has been going regularly to work, and in an active participation in home/social activities.

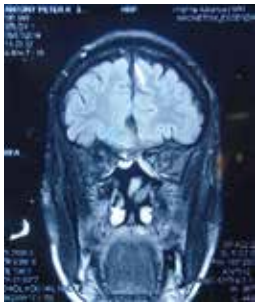
Although endonasal extended endoskull base approach is a new field, it is a field with a future, as we learn to reapply it in various diseases as we become more experienced.





PRE OPERATIVE





POST OPERATIVE

Triceps tendon rupture in chronic unreduced elbow dislocation

By
Dr. S. Yogesh
Orthopedic Surgery

Under guidance of
Dr P. R. Ramsamy
Head of the Department
Orthopedic Surgery Department
Kauvery Hospital, Tennur, Trichy.

Triceps tendon rupture in elbow has been reported worldwide (articles ranging from 1972-2015). However triceps tendon rupture in elbow along with chronic unreduced elbow dislocation has not been reported in the literature. We present one such case in this article. The elbow joint is the 2nd most commonly dislocated joint in adults following shoulder. The classification of acute elbow dislocations is related to direction of forearm bones at time of injury which includes posterior, anterior, divergent, medial and lateral dislocations. The posterior dislocation is the most common type. Closed reduction has been suggested for unreduced dislocations which are less than 3 weeks old and surgical reduction for those more than 3 weeks old.

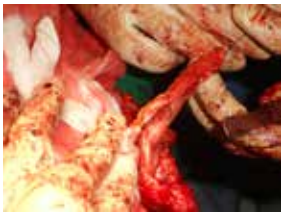
Pathology of a chronic dislocation: Chronic unreduced elbow dislocations have myositis of brachialis and triceps muscles. They also have contracture of collateral elbow ligaments and triceps muscle. Ulnar nerve can also get contracted which makes surgical reduction of the chronically dislocated elbow joint much more difficult. Joint space is filled with fibrous tissue. Articular cartilage and synovial membrane are gradually destroyed and replaced by fibrous tissue.

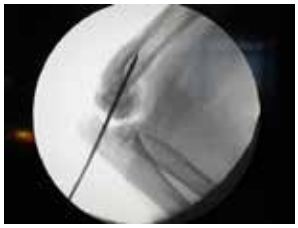
Clinical presentation: Forty four year old lady presented with severe pain in her left elbow more than 5 months period with pre-operative movements ranging from 20-40 deg of flexion. There was no pain free movement. The "three point" bony relationship was altered. Neurovascular examination was normal. She had undertaken native treatment in the form of splintage and massage. X-rays showed unreduced posterior dislocation of elbow with partially united supracondylar fracture of humerus.

Intra operative findings: Elbow joint was approached posteriorly. The ulnar nerve was identified and isolated. Joint was found to be dislocated and triceps tendon was avulsed from its insertion. The joint was debrided and elbow reduced and fixed with ulno-humeral pin. Triceps fascia over the distal half was dissected and rotated in reverse to create triceps tendon for insertion into olecranon. This rotated fascia was attached to the olecranon through drill holes. Wound was closed in layers. The pin was removed after 6 weeks and elbow was gradually mobilized. The post operative movement range at 4 months was from 30-100 deg of flexion without pain.

Discussion and conclusion: We rely only on X rays for chronic elbow dislocations and MRI is not done routinely. The triceps tendon rupture is difficult to diagnose preoperatively in chronic elbow dislocations due to restricted movements. Hence we recommend routine pre operative MRI to identify triceps rupture pre operatively.

The primary repair of triceps tendon to olecranon is difficult in chronic tears due to the contracture of the tendon. Tendon grafts (semitendinosus from knee) could be planned if MRI is done pre operatively. In our case, triceps rupture was found intra operatively. Hence we managed to create a triceps tendon for insertion with triceps fascia. This innovative technique could be used when triceps tendon rupture is detected surprisingly during the intra operative period.





Detection of primary renal tumours through preventive health Check ups

WHO SAID MASTER HEALTH CHECK UP IS UNNECESSARY?

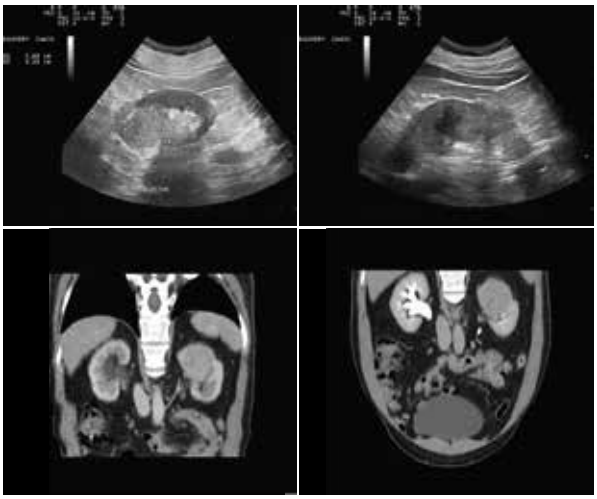
By
Dr. Jeyabharathy
Consultant Radiologist,
Kauvery Hospital, Chennai

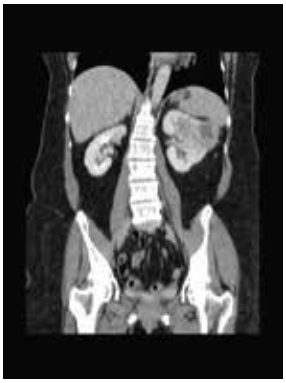
There has been a controversy going on in public forums that the master health checkups do not add to patient benefit and cause unnecessary financial burden to the patient.

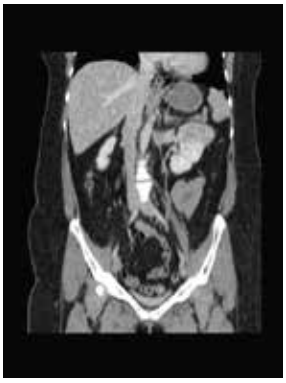
I would like to share my experiences in the detection of primary renal tumours in MHC patients in the last 12 months and it is left for the reader to decide on the need to undergo yearly checkup.

Though we have come across multiple incidental findings of incidental gallstones, renal calculi, ureteric stones and renal failure, the alarm increases when we come across incidental malignancies.

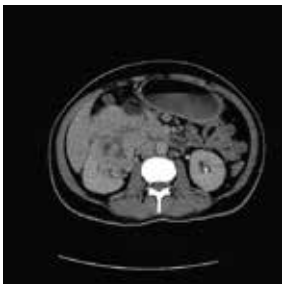
My first patient was a fifty year old gentleman who was normal with no comorbities and wanted a complete health check. His ultrasound showed mixed echogenic mass lesion in the left renal upper pole measuring 5. 6 cms. His subsequent CT abdomen showed left renal upper pole mixed density, heterogeneously enhancing lesion with central necrosis measuring about 5.3x 3cms. Since there was no extracapsular spread, necessary investigations were done and he was taken up for left sided total nephrectomy . HPE report was low grade renal cell carcinoma. He comes to our hospital for regular review and is doing well.





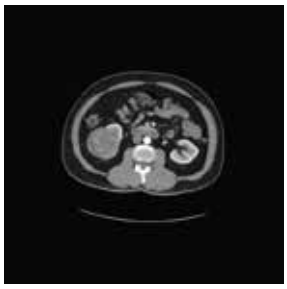


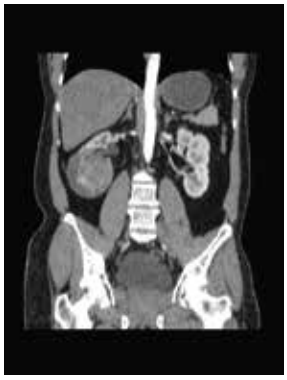
our next pateint was a 61 year old female who was a cardiac patient and wanted an abdomen ultrasound as routine check which revealed a mixed echogenic mass in the left kidney with probable renal vein thrombosis and confirmed on CECT KUB The patient was lost to follow up as she preferred to do the surgery at another hospital.

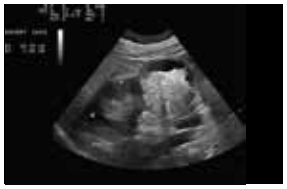


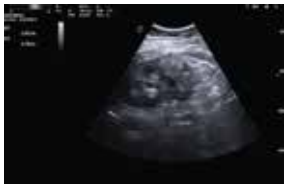
The last patient was a middle aged gentleman who did not have any symptoms, ultrasound showed a large right renal mass which was confirmed on CT . In addition CT showed perinephric spread of tumour. The patient has been advised surgery. Incidental asymptomatic renal cell carcinomas are not uncommon. Renal cell carcinoma (RCC) accounts for 3% of all adult malignancies and is steadily increasing at a rate of about 2. 5% per year. Approximately one-third of patients present with metastatic disease and hence early detection by preventive health checkups may be life saving

The third patient was a fifty old gentleman who had an earlier ultrasound and was told he had a probable angiomyolipoma in his right kidney which was 4cms in size. His present ultrasound showed 6. 3 cm sized welldefined mixed echogenic lesion in the right renal lower pole CT KUB showed right renal lower pole lesion consistent with Bosniak class 4 cyst with subtle enhancement of internal septa. He was taken up for total radical nephrectomy and the HPE report turned out to be papillary renal cell carcinoma. He came back for his first review and is doing fine.









Two months old baby with Neonatal Diabetes Mellitus

SUCCESSFUL TREATMENT WITH ORAL SULPHONYLUREA

By
Dr. P. Gowri
Consultant Diabetologist

Dr. D. Senguttuvan
Head of the Department,
Department of Pediatrics
Kauvery Hospital, Trichy

Neonatal diabetes mellitus occurs approximately in 1 out of every 250,000 live births. It can be either permanent or transient. Recent studies indicate that it is likely to have an underlying genetic cause, particularly when diagnosed before 6 months of age. Permanent neonatal diabetes is most commonly due to activating mutations in either of the genes encoding the two subunits of the ATP-sensitive potassium channel in the pancreatic beta cell. In most of these patients, it is possible to switch from insulin to oral sulfonylurea therapy leading to improved metabolic control, as well as possible amelioration of associated neurodevelopmental disabilities.

Permanent neonatal diabetes mellitus (PNDM) diagnosed within the first 6 months of life is a rare disorder likely to be monogenic rather than autoimmune (1, 2). It is estimated to affect approximately one in 250,000 live births (3). Most patients have heterozygous activating mutations in the KCNJ11 and ABCC8 genes encoding potassium ATP channel subunits Kir6. 2 (4) and SUR1 (5, 6) or heterozygous mutations in the preproinsulin (INS) gene (7). Transfer to SU therapy has been successful for all patients with KCNJ11 mutation (8). We here report a case of neonatal diabetes associated with mutation in the gene KCNJ11 encoding Kir6. 2 and successful replacement of insulin with sulphonylurea.

History: A 52 day old female baby born to non-consanguineously married couple was brought with complaints of fever, incessant cry and decreased feed intake for 2 days. Baby had 2 episodes of convulsions in the previous 2 days. Birth history revealed Term/ IUGR baby (2kg). Baby was fed with breast milk and cow's milk. 1ST dose DPT and oral polio drops were given 3 days back.

Examination: Baby was dehydrated, febrile and was in respiratory distress. Activity was poor, peripheries were pale & dusky, and perfusion was poor. No abnormality was detected in systemic examination. Investigations revealed elevated WBC count, hyperglycemia (RBS-517mg %), azotemia, severe metabolic acidosis and urine acetone was positive. HbA1c was 11. 6%. Insulin autoantibody and GAD 65 antibody were negative

Management: A diagnosis of Neonatal diabetes /Severe Diabetic ketoacidosis/Sepsis was made and baby was started on IV fluids, iv insulin infusion, antibiotics and ionotropic support. During hospitalization, baby had recurrent episodes of convulsions and respiratory distress for which she was intubated and connected to ventilator. CT brain was done which revealed multiple infarcts involving bilateral Posterior cerebral artery territory. Baby needed treatment with multiple anticonvulsants for control of seizures. Baby improved with above measures and discharged with twice daily dose of subcutaneous NPH insulin and oral anticonvulsant medications.

Since the onset of diabetes was <6 months, genetic mutation analysis of the KCNJ11, ABCC8 and INS genes was undertaken. Sample was sent to the Molecular Genetics Laboratory of The Peninsula Medical School, Exeter and test methodology used was sequence analysis of coding and flanking intronic regions of the above said genes. Heterozygous missense mutation of KCNJ 11 gene (p. R201H) was detected. This confirmed a diagnosis of neonatal diabetes due to a mutation in the kir 6. 2 subunit of the K. ATP channel.

Since oral sulphonylurea therapy has been successful for all patients with this mutation, the baby was readmitted for switching over from insulin to oral treatment. Baseline workup including HbA1c, fasting c-peptide, height, weight and developmental age was noted. The sulphonylurea glibenclamide was started at 0. 1mg/kg twice daily along with s/c insulin. Blood glucose levels were regularly monitored. Baby did not have any adverse drug reactions. OHA dosage was increased by 0. 2mg/kg/day and maintained at 1mg/kg/day at the end of one week. Insulin was stopped after 1 week of starting OHA. Blood sugars were maintaining around 250mg% and acetone was negative. A reduction in the seizure frequency and significant improvement in milestone development was noted after initiation of sulfonylurea therapy.

Follow up: Long term follow up is required to assess glycemic control and neuro developmental improvement.

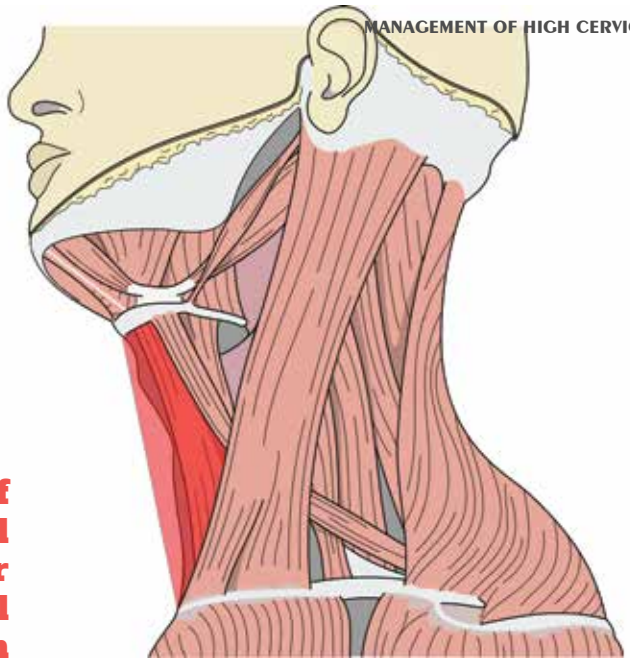
Discussion: NDM is a monogenic form of diabetes that occurs in the first 6 months of life. NDM can be mistaken for the much more common type 1 diabetes, but type 1 diabetes usually occurs later than the first 6 months of life. In about half of those with NDM, the condition is lifelong and is called permanent neonatal diabetes mellitus (PNDM). In the rest of those with NDM, the condition is transient and disappears during infancy but can reappear later in life; this type of NDM is called transient neonatal diabetes mellitus (TNDM).

There is a spectrum of phenotypes associated with KCNJ 11 mutations. The mildest form caused by KCNJ 11 mutation is the Transient neonatal diabetes mellitus (TNDM). TNDM usually resolves around 18 months of age. A proportion of them may subsequently relapse and are diagnosed with diabetes in adolescence or early adulthood.

The second phenotype associated is Permanent neonatal diabetes mellitus (PNDM). In this phenotype, neurological features, particularly developmental delay and epilepsy are seen in addition to neonatal diabetes. This is known as Developmental delay epilepsy and neonatal diabetes (DEND) syndrome. Those with a very severe neurological phenotype that exhibits all the features are said to have full DEND syndrome. A less severe clinical picture, consisting of neonatal diabetes with developmental delay and or muscle weakness but not epilepsy is referred to as intermediate (i- DEND) syndrome. Our patient falls in the severe category.

Our case report suggests that oral sulfonylureas can replace subcutaneously injected insulin in children with PND due to Kir6. 2-activating mutations. All neonates with an antibody-negative form of diabetes diagnosed before 6 months of age should undergo genetic mutation analysis. Treatment with sulphonylurea may also limit neurological damage, even when it is unable to control diabetes.

Gene involved	Onset of diabetes	Mode of inheritance	Treatment
KCNJ11	3 to 6 months	Autosomal dominant Spontaneous	Treated with insulin in the past but often can be treated with oral sulfonylureas
ABCC8	1 to 3 months	Autosomal dominant Spontaneous	Treated with insulin in the past but often can be treated with oral sulfonylureas
GCK	1 week	Autosomal recessive	Insulin
IPF1; also known as PDX1	1 week	Autosomal recessive	Treat to replace endocrine and exocrine pancreas functions
PTF1A	At birth	Autosomal recessive	Treat to replace endocrine and exocrine pancreas functions
FOXP3, IPEX syndrome	Sometimes present at birth	X-linked	Insulin
EIF2AK3, Wolcott-Rallison syndrome	3 months	Autosomal recessive	Insulin and treatment for associated conditions



Management of high cervical cord dumbell tumour - Microsurgical excision

By
Dr. K. Madhusuthan
Consultant Neurosurgeon
Kaurery Hospital, Tennur, Trichy

Introduction:
High cervical nerve sheath tumors(NST) include tumors arising from c1/c2/c3 nerve roots. They are unique because of their location and proximity to vertebral artery . They constitute 20% of spinal NST. They present with myelopathy features or pure neck pain alone.

Case Summary:
50 year old male, recently diagnosed with DM and hypothyroidism presented with h/o neck pain 6 months and difficulty in turning head from side to side. He had numbness in right hand and feet and minimal weakness of right hand grip. He was evaluated outside and diagnosed with C2 dumbell tumour. Patient refused surgery initially for fear of postop neurological deficit.

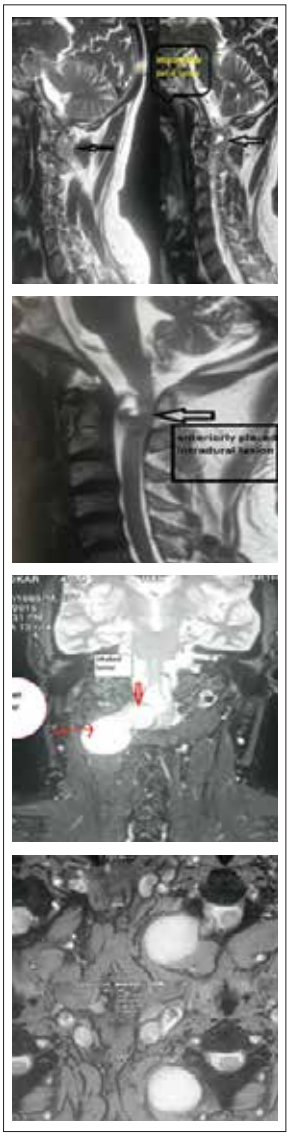
He underwent C1/c2 laminectomy and excision of extradural and intradural tumour. He was placed prone and suboccipital to C4 lamina delineated. Initially the extradural component extending into the muscles excised after preserving the vertebral artery which was pushed anteriorly. Dura opened and the anteriorly placed intradural component excised . WATERTIGHT dural closure done and overlaid with fibringlue. Post op, patient had no deficit and his pain decreased and weakness improved.

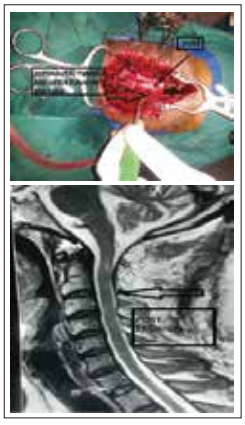
Discussion:
C2 NST pose a surgical problem because of high cervical location and its relation to vertebral artery. Anteriorly placed lesions are surgical challenges as undue cord retraction can result in significant postop neurological deficit. Dural rent and wound CSF leak can be a significant problem in dumbell tumour.

They are classified as
1. Anterior
2. Anterolateral
3. Poserolateral
4. Posterior

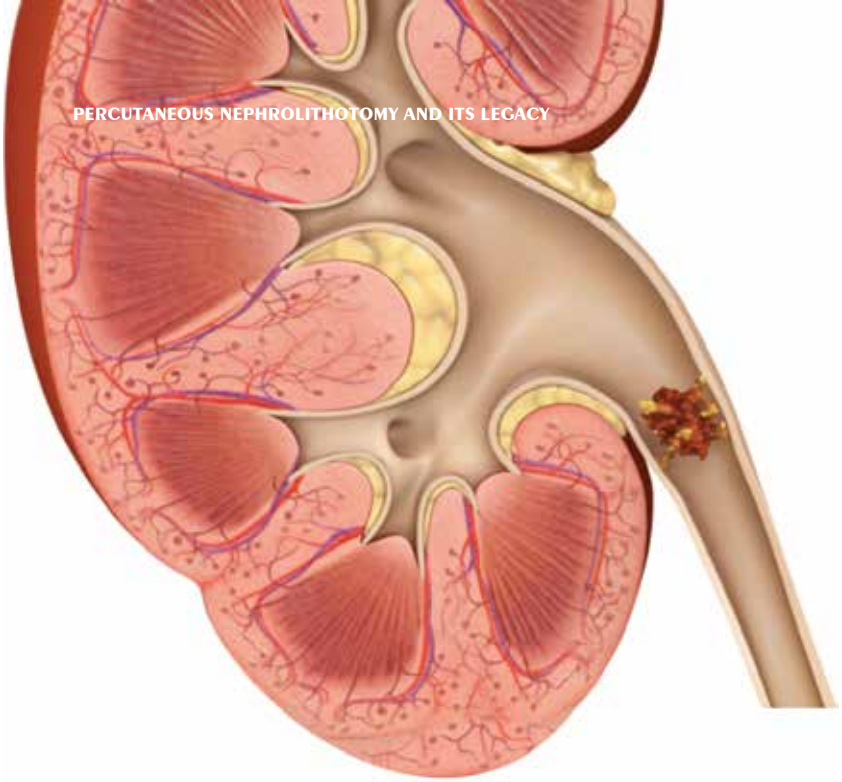
Purely anteriorly placed lesions may need a transcondylar approach . But because of the dumbell shape, anterolaterally placed lesions can be operated by the posterior only approach. If instability arises may need postop spinal stabilisation. In this case the dumbell tumour widened the intervertebral foramen allowing the removal of the anteriorly placed lesion with ease.

MRI Showingthe Anteriorly Placed Lesion With Transforaminal Dumbell Extension





Intaop And Postop Picture After Complete Excision



Percutaneous nephrolithotomy and its legacy

By
Dr. S. Senthilkumar,
Senior Consultant Urologist

Dr. N. Karthickeyan,
Consultant Urologist

Kauvery Kidney Center, Tennur, Trichy

Fernstrom and Johansson first removed a renal calculus through a nephrostomy tract in the year 1976. Since then Percutaneous Nephrolithotomy (PCNL) has significantly changed and is continuing to evolve. It is the urologist`s main work horse in the management of renal calculus.

Indications for PCNL:

1. Large stone burden > 2 cm or 1. 5 cm for lower calyceal stones.

2. Staghorn stones.

3. Stones that are difficult to disintegrate by ESWL (calcium-oxalate monohydrate, brushite, cystine).

4. Stones refractory to ESWL or ureteroscopy.

5. Urinary tract obstructions that need simultaneous correction (e. g. PUJ obstruction).

6. Malformations with reduced probability of fragment passage after ESWL (e. g. horseshoe or ectopic kidneys, calyceal diverticula.

7. Obesity

Absolute contraindications:

Uncorrected coagulopathy
Untreated UTI

DISCUSSION:

PCNL in Special situations and limitations:

PCNL as monotherapy has several advantages in the removal of upper tract stones larger than 2cm, achieving excellent results with minimal morbidity. However, partial or complete staghorn calculi may require multiple punctures or the combination of PCNL and ESWL followed by repeat PCNL (sandwich therapy). PCNL should be the preferred technique for patients with struvite stones. When these infected stones are removed completely by PCNL, the patient has a 90% chance of remaining stone free for at least 3 years. Stones larger than 1. 5cm in the lower pole are best managed by PCNL as a first treatment option, irrespectively of the anatomy of the lower pole. However, PCNL has a higher success rate in the cost of higher complication rates. Percutaneous nephrolithotomy is considered the gold standard for managing calyceal diverticula with stones. High rates of stone-clearance (76% to 100%) and diverticular obliteration (61% to 100%) have been published in contemporary series.

Stones in Kidneys with anatomic variation:

PCNL in the horseshoe kidney, malrotated and pelvic kidneys and transplanted kidneys has been safe and effective, especially when large stones or ureteropelvic junction obstruction existed. Renal access is obtained mostly through an upper pole calyx and vascular injury is less likely in these conditions. This is because the whole blood supply enters the kidney medial in renal congenital anomalies, and the anterior nature of the transplant kidney in the iliac fossa offers easier access through the anterior abdominal wall for tract dilation. However, a second look procedure is occasionally necessary to render the kidney free of stones.

Paediatric Urolithiasis:

Standard PCNL with the use of adult instruments is safe and highly effective treatment for stone disease in infants, preschool or older children. PCNL in children is recommended when ESWL or ureteroscopy have failed, when a large stone burden is treated, and when anatomical abnormalities that may impair urinary drainage and stone clearance exist. Stone-free rates with a single session of PCNL range from 67% to 100% .

Upper tract stones in Obese patients:
Several retrospective studies indicate that PCNL in obese patients can be performed with stone-free rates (as high as 100%), complication rates and hospital stays comparable to those achieved in an unselected population.

Stones in Solitary Kidney:
Clinical studies in patients with a solitary kidney have also indicated that PCNL has no clinically significant adverse effect on renal function on a short-term or a long-term follow-up.

Chronic Kidney Disease:
In patients with pre-existing renal impairment, kidney function in the immediate postoperative period did not deteriorate but instead sometimes improve when the renal failure was secondary to obstruction or infection.

Points of PCNL technique:
Percutaneous nephrolithotomy is usually performed in the prone position (Figure 1). This approach has some disadvantages, including patient discomfort,circulatory and ventilatory difficulties. PCNL may be precluded by the presence of associated pulmonary disorders and/ or obesity. PCNL at the lateral decubitus and supine position has been seen to be a safe and effective alternative. Regardless of the position, the pelvicalyceal system was successfully approached in all patients and the posterior calyces were the most common site of entry. The overall success rate and the complication rates are similar in both groups.
For most patients fluoroscopy or sonography is done to monitor access into the renal collecting system. Following creation of percutaneous renal access, tract dilatation is an essential step in the performance of percutaneous renal surgery. With proper tract dilatation an appropriate size working sheath can be placed facilitating nephroscopes, working instruments, nephrostomy tubes. Tubeless PCNL without nephrostomy tubes are done when there is no undue bleeding and major PCS perforation.

Complications during PCNL:
Major complications:
Bleeding requiring intervention 0. 6-1. 4%
Pleural injury 2. 3-3. 1%
Colonic injury 0. 2-0. 8%
Septicemia 0. 9%-4. 7%

Minor complications:
Bleeding requiring transfusions <8%
Insignificant bleeding
Fever
Pain

PCNL-the road well-travelled:
Being the pioneer of PCNL in the Trichy zone, we have done more than 2000 PCNL procedures in the past 10 years. We recently had quite a bunch of challenging cases. Six patients with horse shoe kidney (HSK) came with renal stones. Two had emphysematous pyelonephritis along with renal stones (Figure 2). They underwent stenting initially to control sepsis. Standard PCNL was done in all of them. All patients with HSK and stones had complete stone clearance without any complications.

Last year we have done PCNL for ten children under 12 years of age. Standard PCNL was done using adult instruments. One 3 year old boy was diagnosed to have right renal calculus (Figure 3) as the cause for his recurrent abdominal pain and hematuria. He underwent percutaneous stone removal with uneventful recovery.

PCNL is the recommended treatment for staghorn calculus occupying the entire pelvicalyceal system. Eight patients with staghorn calculus underwent PCNL last year, of which three patients had partial staghorn configuration. One of our patient,a 50 year old gentleman underwent multipuncture PCNL for a complete staghorn calculus (Figure 4). The patient was stone free (Figure 5 & 6) with minimal drop in haematocrit at the time of discharge.

Conclusion:
PCNL is a safe and effective treatment modality for large upper urinary tract stones in all age groups. PCNL is the preferred method in treating stones in abnormally located kidneys.


Figure 1-PCNL in the prone position

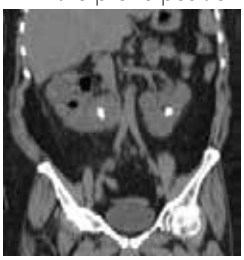


Figure 2-Horse shoe Kidney with B/L Renal stones. Note the air packets on the right side.

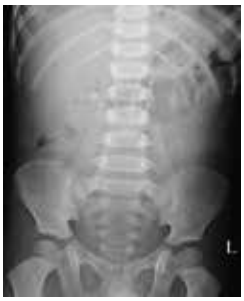


Figure 3-Right renal calculus in a three year old boy

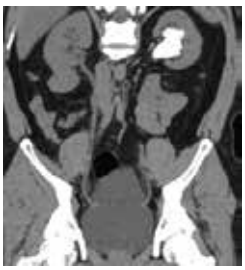


Figure 4-Complete left staghorn calculus

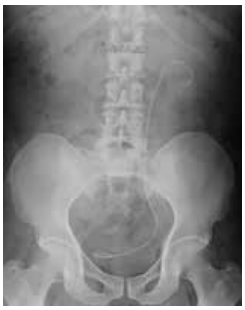


Figure 5-Post Left PCNL showing complete stone clearance

Apple-Stuffed Cinnamon Bundle

KIDNEY FRIENDLY RECIPE

Ingredients:

4 apples or 3½ cups (of peeled medium diced Granny Smith, Washington Gala, and Honey Crisp apples mixed)

¼ cup light brown sugar

2 tbsp. unsalted butter, firm 1/4 cup melted unsalted butter

(for buttering phyllo pastry sheet)

1 tsp. cinnamon

1/4 tsp nutmeg

2 tbsp. vanilla extract

1/4 tsp. corn starch

1/ package (6 sheet) phyllo dough

Combine in a small bowl:

3 tbsp. powered sugar

2 tbsp. cinnamon

Preparation:

Pre-heat oven to 350 degrees

Prepare apple mixture:
In large sauté pan on medium high heat, sauté apples in butter for 6-8 minutes. Stir in cinnamon, nutmeg, and brown sugar, and cook for an additional 3-4 minutes. In a small cup, mix cornstarch and vanilla extract until dissolved, stir into apple mixture and cook for additional two minutes on medium high heat. Turn off heat and set aside.

Prepare phyllo dough bundles:
Lightly grease a large six muffin tin pan. Starting with the first sheet of phyllo dough, brush each side with melted butter then dust with the powdered sugar and cinnamon mix. Continue until all 6 sheets have been buttered and dusted with sugar and cinnamon mix, stacking one sheet on top of the other as you go.

Cut each stack into 6 squares. Line the bottom and sides of each muffin cup using one stack of squares. Leave an over-hang.

Fill each phyllo lined muffin cup ½ - ¾ full with the apple mixture (this will depend on how big the apples are cut), making sure each phyllo lined muffin cup has equal amounts of apple mixture.

Fold excess phyllo dough over the apples in each muffin cup and pinch top closed to create the bundles.

Bake in preheated oven for 8-10 minutes or until golden brown.

Garnish with powdered sugar, whipped cream and sprig of fresh mint.

For those with diabetes, ¼ cup Agave Nectar can be substituted for light brown sugar as a sweetener.

Key Nutritional Value:

Calories	- 249 calories
Trans Fat	- 0 grams
Protein	- 2 grams
Cholesterol	- 31 milligrams
Carbohydrate	- 29 grams
Potassium	- 102 milligrams
Total Fat	- 14 grams
Phosphorus	- 26 milligrams
Saturated Fat	- 9 grams
Sodium	- 99 milligrams

New release from our Kauvery academy.

To see our video Scan this QR code with QR scanner App in your smartphone

Medical Clowning at Kauvery Hospital

WORLD KIDNEY DAY was celebrated with an intention to create awareness among the public on KIDNEY HEALTH and ORGAN DONATION. The sequence of events like 1week Special Camp, Signature campaign, Water bottle campaign, launch of Mobile App, Donor Card, Ka Ka Ka Po notion and Radio Jingles made the program a colossal success.

The CME on renal update 2016 was a mega hit, more than 150 doctors participated in the event. Every clinician cherished the quality of the gather and the expertise of the speakers.

The donor recipient meet was the pin-up among the kidney day Events. Mr. Visu's emotional touch on organ donation moved the crowd.


ORGAN DONOR MEET


I AM AN ORGAN DONOR


ORGAN DONOR MEET

WE EXTEND A HEARTY WELCOME TO OUR KAUVERY FAMILY

DR. G. JOS JASPER., MBBS., M.CH (NEURO SURGERY).,
HEAD OF THE DEPARTMENT,
KAUVERY BRAIN & SPINE CENTRE,
CANTONMENT, TRICHY

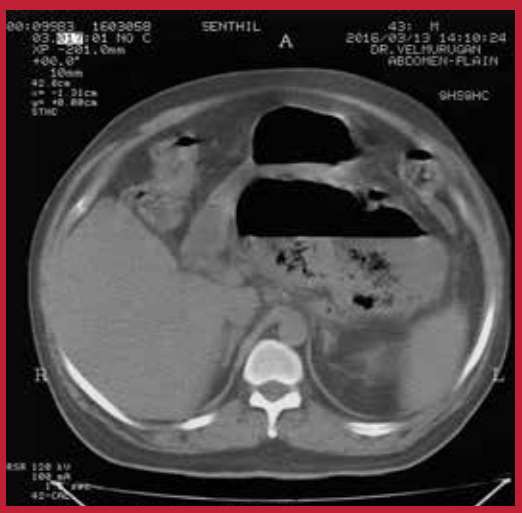
DR.R.UVARAJ DA.,MD(Anaes).,DM(Cardiac Anaes).,
CARDIAC ANAESTHESIOLOGIST
HEARTCITY

DR. PRAVIN GAVASKAR MBBS., MD(PAED),
CONSULTANT PAEDIATRICIAN
CANTONMENT

DR. K. SATHAPPAN MD(ANAES).,
FELLOWSHIP IN CARDIAC ANAESTHESIA
CONSULTANT CARDIAC ANAESTHESIOLOGIST
HEARTCITY

DR. S. BARANIDHARAN MD(ANAES).,
INTENSIVIST-ICU
SPECIALITIES-CANTONMENT

QUIZ COMPETITION

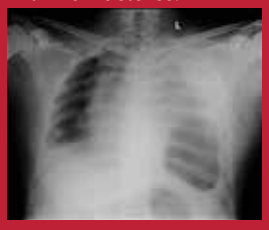


QUESTION
Chronic alcoholic patient with recurrent abdominal pain. Now presented with high grade fever, abdominal pain and toxic symptoms. What is the diagnosis?

Answer the Quiz to
Emaill: capsule@kauveryhospital. com or
Whatsapp: 98434 12380
and win Surprize Gift

Please send the answers with your full name and mobile number.
The correct answers and winner will be disclosed in the next capsule edition.

Answer for the previous Quiz
Hemithorax with traumatic diaphragmatic hernia with rib fractures.



And the winner is
Dr. Sivagnanam
Trichy

Daily's complementing Kauvery's efforts for organ donation

தினத்தந்தி

ORGAN DONOR MEET

காவேரி மருத்துவமனை சார்பில் உடல் உறுப்பு தானம் குறித்த விழிப்புணர்வு நிகழ்ச்சி

THE HINDU

Visu canvasses for organ donation

The veteran actor shares his experience and difficulties associated with dialysis

NOR MEET

மாலை முரசு

காவேரி மருத்துவமனை சார்பில் உறுப்பு தான நிகழ்ச்சி

I AM AN DONOR

தினமணி

காவேரி மருத்துவமனை சார்பில் உடலுறுப்பு தான விழிப்புணர்வு நிகழ்ச்சி

தின மலர்

மூடநம்பிக்கை விட்டு உறுப்பு தானம் செய்யுங்கள்

ORGAN DONOR MEET

மூடநம்பிக்கைகளை விட்டு உறுப்பு தானம் செய்யுங்கள்

தினகரன்

உடல் உறுப்பு தானம் விழிப்புணர்வு நிகழ்ச்சி

காவேரி மருத்துவமனை சார்பில் நடந்தது

தி இந்து

திருச்சியில் உலக சி...

I AM AN DONOR

தின பூமி

காவேரி மருத்துவமனை சார்பில் நடந்த உடல் உறுப்புதான விழிப்புணர்வு நிகழ்ச்சி

INDIAN EXPRESS

Kidney Day at Kauvery Hospital

Kidney Day at Kauvery Hospital

Express News Service

To commemorate World Kidney Day, Kauvery Hospital organised a series of awareness programmes and camps focussing on kidney diseases. Globally, World Kidney Day (WKD) is held on the second Thursday of March. Kauvery Hospital emphasised the need for awareness about kidney diseases, which affect millions of people — including children — worldwide.

The hospital staff focused on making patients, caregivers, young patients, and the public aware of the importance of identifying and treating kidney diseases in children. A special renal camp was held for the public and new packages for patients were introduced.

A team from the hospital also conducted a signature campaign to raise awareness about organ donation. People of different ages showed an interest in organ donation and participated in the campaign. Film personality Visu interacted with donors during the campaign.

The hospital offered a platform for people to pledge to donate their organs. Organ donor cards, certificates, a mobile app and a book on

திருச்சி காவேரி மருத்துவமனை சார்பில் நடந்த கலந்தாய்வு நிகழ்ச்சியில் நடிகர் விசு பேசினார். அருகில் ராஜன், சந்தசாமி, கார்த்திகேயன் ஆகியோர் உள்ளனர்.

வெள்ளி மலர்

உடல் உறுப்புமாற்று அறுவை சிகிச்சை திருச்சி காவேரி மருத்துவமனை சாதனை

உடல் உறுப்புமாற்றுஅறுவைசிகிச்சையில் திருச்சிகாவேரிமருத்துவமனைசாதனை