



KAUVERY MEDICAL JOURNAL

NEWSLETTER

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Secretary's Message

Dear colleagues,

Greetings from IMA Chennai Kauvery Alwarpet Branch.

On Behalf of Our branch we would like to congratulate the newly elected office bearers of FSS and PPLSS

The monthly Academic meetings of our branch were held on 05/04/19 and 03/05/19 at Kauvery Hospital, Chennai and were well attended. Doctors day was celebrated with great enthusiasm on 14/06/19 at Hotel Savera.

Our Monthly Academic Meeting has been registered with Tamilnadu Medical Council for CME Credit hours and you can find your credit score by logging into your account in the TNMC website.

We thank all our members who wholeheartedly cooperated and participated in the OPD boycott called for by the National and State IMA.

We extend our fullest support and cooperation for the steps taken by IMA against NMC bill.

We request all our members to join the IMA PPLSS and FSS schemes

Long live IMA

Yours in IMA service,

Dr. S. Sivaram Kannan



Editor's Message

Dear friends

I am happy to meet you all with the next edition of our IMA newsletter.

Kauvery hospital Chennai, is the happening place for advanced medical treatment in various specialities

I am thankful to all our consultants for actively contributing to our newsletter.

We welcome your feedbacks and suggestions.

With best regards,

Dr. R. Balasubramaniam



Coronary Artery Dissection Following Blunt Injury Chest

Article By

Dr Sundar Chidambaram
Sr. Consultant Cardiologist

Abstract:

Chest trauma has a high mortality. Coronary dissection causing myocardial infarction following blunt chest trauma is rare. We describe the case of an anterior MI following blunt chest trauma. A 39-year-old male was received in our hospital following motorcycle accident. The patient was asymptomatic before the accident. The patient underwent craniotomy for evacuation of hematoma. He developed severe chest pain and an ECG revealed anterior ST segment elevation following surgery. Acute coronary event was medically managed, subsequently coronary angiogram was performed which showed dissection in the left anterior coronary artery which was stented.

Case history:

A 39-year-old male, who met with a road traffic accident was received in our hospital. He was asymptomatic and without any comorbidities before the accident. He was diagnosed to have sub dural hematoma for which he underwent craniotomy. Six hours after the surgery he had severe chest pain and the ECG showed anterior wall myocardial infarction and echo showed regional wall motion abnormality in left anterior descending artery territory. Since the patient had undergone surgery and had contraindication for thrombolytics and antiplatelets, patient was managed medically. Subsequently patient was taken up for coronary angiogram which revealed dissection in the proximal LAD, which was stented with drug eluting stent. Patient was discharged in a stable condition.

Discussion:

Chest trauma is known to cause cardiac contusion, but acute myocardial infarction is a rare complication. It can occur following blunt chest trauma, secondary to coronary artery dissection, spasm of the coronary artery, intimal tear, sub intimal hemorrhage, aneurysm, intraluminal thrombosis, vessel rupture and external compression by epicardial haematoma and haemorrhage into a pre-existing atheromatous plaque¹.

The most commonly affected artery is left anterior descending artery (LAD) due to its proximity to the chest wall. A vulnerability to the forces which accelerate and decelerate at the junction of the proximal and middle LAD could also explain the higher incidence of injuries to this vessel². The second most commonly affected artery is the right coronary artery; it is also vulnerable because it runs anteriorly

towards the sternum during systole and is affected by rapid deceleration resulting in disruption of its junction from aortic root³. The left circumflex artery involvement is uncommon. Our patient had dissection of LAD.

Early identification remains a challenge. Diagnosis can be difficult because chest pain can be due to chest contusion or overshadowed by concomitant injuries⁴. Initial evaluation should be oriented to stabilization according to standard protocols. Our patient was managed medically as he underwent craniotomy. After initial medical stabilization patient underwent coronary angiogram, which showed dissection in LAD (Fig 1A, 1B). Dissection was managed by putting a drug eluting stent (Fig 2A, 2B). Diagnosis of coronary dissection following chest trauma requires clinical suspicion and systematic evaluation.

Figure Legends:

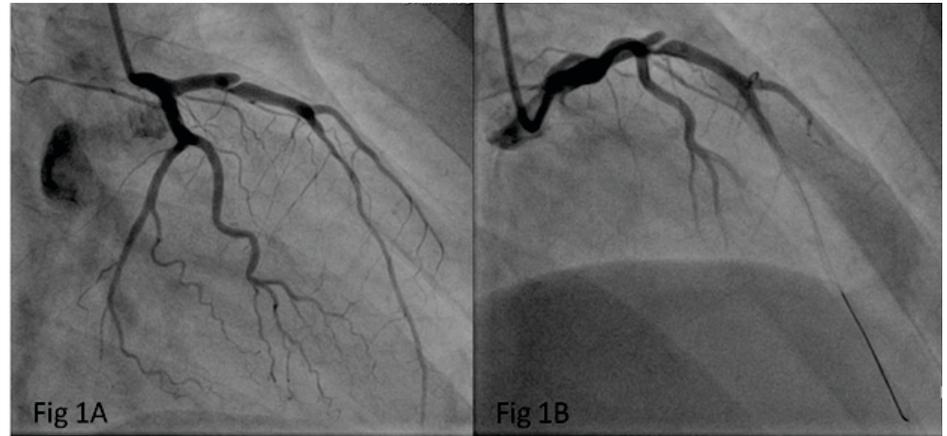


Fig 1A, 1B: Coronary angiogram showing dissection of left anterior descending artery.

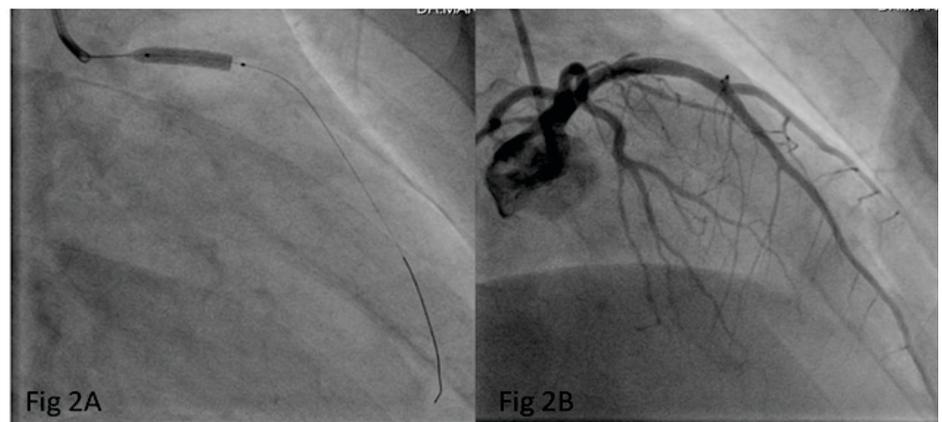


Fig 2A, 2B: Figure shows intervention of the coronary dissection of left anterior

Continuous Renal Replacement Therapy (CRRT)

Article By

Dr. Balasubramaniyam
Chief Nephrologist

70 years old Mr.K, was admitted to the ICU with history of fever of 3 days, low urine output, altered sensorium and shallow breathing. He was found to be hypotensive requiring inotropic support and mechanical ventilation. Evaluation revealed that he was in sepsis due to urinary tract infection and was in severe renal failure with gross metabolic acidosis. He needed antibiotic support and dialysis.

He was taken on CRRT – CVVHDF and treated with culture specific antibiotics. He recovered, became hemodynamically stable and came off ventilator support. He was maintained on intermittent haemodialysis after his hemodynamics got stabilised. His renal recovery was achieved and was taken off dialysis.

Continuous Renal Replacement Therapy (CRRT)

When a patient suffers from severe kidney failure, he needs dialysis support. This is done as an outpatient procedure, thrice weekly and each session is for 4 to 5 hours. If a patient is critically ill and admitted in the intensive care unit, with hemodynamic instability, in hyper-catabolic state needing large amounts of fluid support and nutritional needs, then he needs CRRT.

Both intermittent haemodialysis and continuous haemodialysis circuits utilize the same principles. Blood is removed from the patient, pumped through a dialysis filter and returned to the patient following removal of surplus water and wastes. The major difference between intermittent and continuous therapies is the speed at which water and wastes are removed. Intermittent haemodialysis removes large amounts of water and wastes in a short period of time (usually over 4 – 5 hours), whereas, continuous renal replacement therapies remove water and wastes at a slow and steady rate.

CRRT PRINCIPLE

Patient needs a central line or removing the blood and commonly the internal jugular vein or the subclavian vein is chosen. Blood is removed at a slower speed 100 to 150 ml per minute and it is passed through the haemofilter. The anticoagulation used is heparin (commonly) or regional citrate that needs careful monitoring of patient's calcium. The dialysis is performed at the bedside and can go on for days together. Once the patient gets better, he can be shifted to conventional haemodialysis until his kidneys recover.

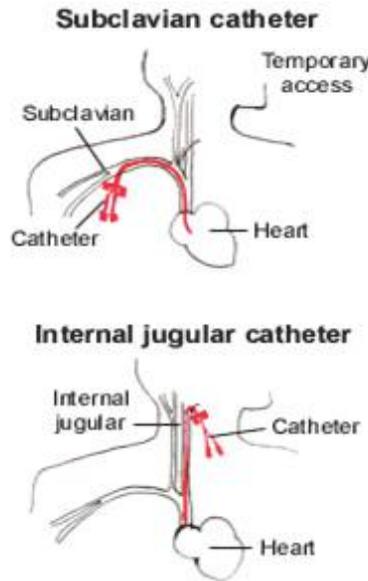


Fig 1 – dialysis access

CRRT types

The basic need for CRRT can be of 3 types – only fluid removal or removal of metabolic wastes or both.

The CVVH (Continuous Veno Veno Haemofiltration) is performed when there is a need for continuous fluid removal. Replacement fluid is given to prevent volume depletion. Here there is only convective transport and the removal of metabolic wastes is due to 'convection - solvent drag'. There is no dialysate flow here.

CVVHD (Continuous Veno Veno Hemo Dialysis) involves dialysate flow in the counter current manner. Here the principle mechanism is DIFFUSION where the patient with severe renal failure undergoes slow continuous dialysis. Useful in patients with anuria and hyper catabolic renal failure in the intensive care unit. Since fluid removal is not massive there is NO need to give replacement fluid.

CVVHDF (Continuous Veno Veno Hemo Dia Filtration) this method combines the above two procedures. Here there is dialysate flow in the counter current way, thereby enabling diffusive clearance and large volume ultra-filtration, and includes convective removal as well. There is replacement fluid administration as it involves large volume ultra-filtration.

Slow Continuous Ultra Filtration (SCUF) – This is done when there is need only for slow fluid removal over a longer period of

time, without need for convective metabolic waste removal. There is no need for replacement fluid administration.

Choosing the appropriate modality is done by the nephrologist as per the patient's requirement. CRRT is a boon to patients in the intensive care unit who have haemodynamic instability needing dialysis. Intracranial hypertension is one specific situation where CRRT is highly useful as it prevents blood pressure fluctuations during the dialysis procedure. This is highly critical in these patients towards preventing brain deterioration.



FIG 2 : CRRT – bedside in the ICU

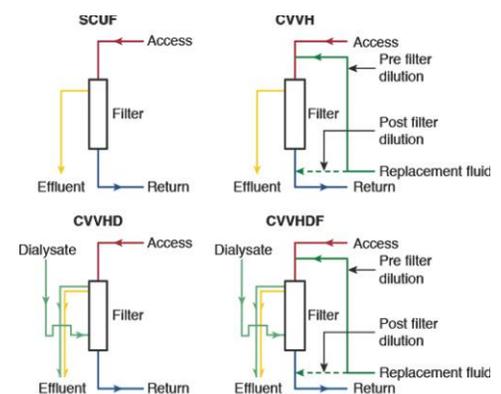


Fig 3 – different types Of CRRT

Osteoporosis is characterized by low bone mass with micro architectural deterioration of bone tissue which leads to enhanced bone fragility, thus increasing the chance of fractures. Although exact numbers are not available, based on available data and clinical experience, it is estimated that 25 million Indians may be affected. Osteoporotic fractures in India occur commonly in both sexes, and may occur at a younger age than in the West. Recently published data have clearly demonstrated widespread vitamin D deficiency across India, at all ages and in both sexes, particularly in the urban areas. Poor sunlight exposure and a vitamin D-deficient diet are the obvious causes for Osteoporosis. Indians have low bone mineral density(BMD) as compared to the western population. Healthy lifestyle (diet, exercise and sunlight exposure) can have a major positive impact on the bone metabolism and bone health of Indians.

It is important to diagnose vertebral compression fractures due to osteoporosis in elder/geriatric age group as it is more common in geriatric population. There are a number of potential adverse effects associated with it.

1. Morbidity (disabling symptoms): Continuous pain, decreased physical function and difficulty in changing their posture (even the routine activities in bed) all of which negatively impact the individual's overall quality of life.

2. Mortality is rare, but may happen due to associated systemic complications.

Treatment includes non-surgical care, such as rest, pain medication, use of hot / cold packs for pain relief and slow return to mobility. Percutaneous procedures are advisable if conservative treatment fails. The most common procedures are vertebroplasty and kyphoplasty.

Vertebroplasty. Through needle, under fluoroscopy guidance low viscosity/ fast setting bone cement is injected directly into the collapsed vertebral body under high pressure, with the main goal of relieving the pain by stabilizing the fracture.

Kyphoplasty. Is also a similar procedure in that a balloon is used to restore the height of the collapsed vertebral body before cement injection.

Case report: 70 years old female patient came to us with complaints of severe back pain for the past 15 days with alleged history of slip in toilet 15 days ago. She was

diagnosed to have D11 vertebral compression fracture (Figure 1, 2), which was unstable. Patient's was found to have a very low BMD. Patient had tried conservative treatment in the form of rest, analgesics and braces in the past. We did percutaneous vertebroplasty (Figure 3) at the fractured level along with the level above and below that segment (to prevent adjacent segment fracture). Immediate post procedure complete pain relief was appreciated by the patient and she was mobilised on the same day of procedure.



FIGURE 1



FIGURE 2



FIGURE 3

Osteoporotic fracture is not a rare condition. Treatment requires early diagnosis and definitive treatment, associated with correction of bone mineral density of the patient, mainly to prevent further fractures.

Airway/Oxygenation Every Doctor Can Do!!

Article By

Dr.A.Gokulkannan
DNB PG - Anaesthesiology

Video Laryngoscopy & Laryngeal Mask Airway are two gadgets which have revolutionized the handling of emergency situations in airway patency. Every one of us may have come across such emergencies in our career and such emergencies may continue to occur in future. Oxygenation & Ventilation are not the responsibility of only anaesthesiologists/intensivists/emergency physicians; every doctor should be able to handle such situations with the help of these two gadgets.

Video Laryngoscopy is something simple like a tongue depressor and makes vocal cords visible. The learning curve is short, unlike conventional laryngoscopy. The alignment of oral-pharyngeal-laryngeal axes is not mandatory. The lifting force used is minimal.

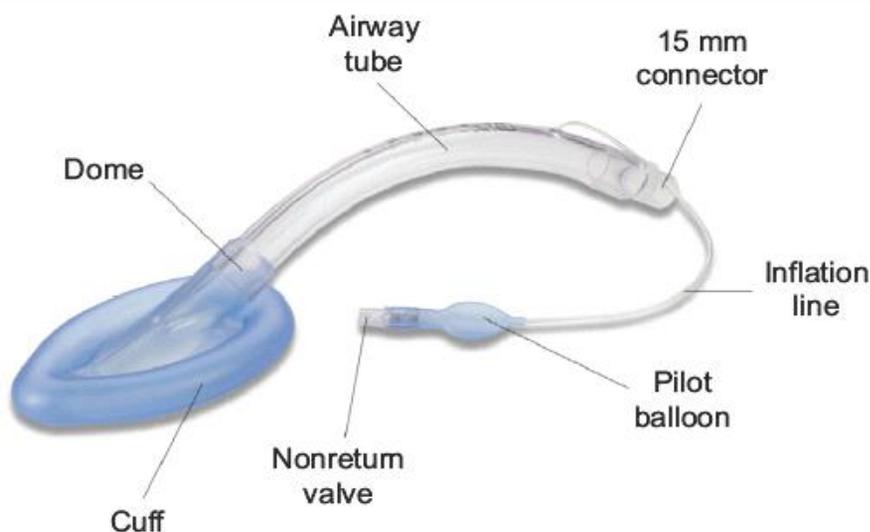
Laryngeal Mask Airway is much simpler, just open the mouth and insert the gadget! We use this gadget in place of endotracheal tube in emergencies and also in certain elective surgeries. Here are few situations which enlighten the importance.

Last week, we received a call from our Emergency Room who faced difficulty in securing the airway of a gasping patient who is a known case of carcinoma hypopharynx. We attempted routine laryngoscopy first. As we couldn't visualize the cords we used the help of Video Laryngoscopy, secured the airway and saved the life. Similar incident had happened in our Emergency Room, nearly a year ago. It is not necessary that all airways be difficult. But the presence of this life-saving equipment really makes a significant difference in such situations.

Nearly a month ago, in our ICU, a patient was deteriorating in Non-Invasive Ventilator. The next option in management is Invasive Ventilation. After informing the concerned family, we attempted intubation with conventional laryngoscopy blade and also with modified McCoy blade. As results were not satisfactory we opted for a Laryngeal Mask Airway from Operation Theatre and secured the airway.

In emergency scenarios, one should not delay securing airway which threatens delivering oxygen to the brain. Timely deployment of such gadgets may prevent hypoxia induced encephalopathy too.

So, each and every individual in our medical field should be aware of these gadgets and be familiarised with it. It should be ensured that they are made available in all crash carts. Each and every hospital should have these gadgets at least in their OTs, ERs & ICUs.



When Failure (amputation) is not an option

Microsurgery - The King of All surgeries made easy.

Article By

Prof. V B Narayana Murthy
Sr. Consultant Plastic Surgeon

The art and science of re-implanting a completely severed hand or the fingers is a well known procedure. Clean cut injuries, industrial and sometimes domestic injuries generally cause less damage to the hands or the fingers. High speed road traffic accidents are common due to the recent improvement in the quality and widespread availability of excellent roads. High speed motorcycles and modern cars and heavy vehicles use the same roads. Lack of regulatory controls and self-discipline has resulted in the unfortunate and the unacceptable rise in high speed road accidents. These cause unbelievable and unimaginable damage to the limbs, especially the lower limbs. Excellent advances in medical care and timely intervention has resulted in saving the lives of these unfortunate young drivers. These people would have died in the years gone by but as they survive these horrific accidents, they are left with these horrendous injuries of the limbs. The responsibility to save these limbs and rehabilitate them to get back to normal or near normal life and occupation now rests on the shoulders of reconstructive plastic surgeons. Microsurgeons

are a special sub group of plastic surgeons who have got the training to undertake not only the task of reconstruction and save the limb but to rehabilitate these patients fully. Let me go through the agony and the ecstasy a patient and his relatives and the surgeons and the entire team relive the experience.



Day 1, First interview. On the day of injury.

Surgeon(S): Hello, I am happy that Mr M is now doing fine and has come out of danger from his severe injuries sustained. The lower extremity is however badly damaged and is in a state that he may require amputation. But, but it is possible to try to salvage the limb.

Patients Relatives (P): Thank you very much doctor. Please do try to save the leg. S: I can show you the photo for you to judge the extent of the damage the limb has undergone. All the structures have been damaged beyond recognition. It will involve the expertise of an orthopaedic surgeon, an anaesthetist and an intensive care specialist also to make sure he is taken care of comprehensively, not to forget the specially trained nurses and technicians required to undertake this specialised salvage.

P: (feeling dizzy and faint), Doctor please go ahead and do whatever is necessary and possible to save the limb doctor.

S: This will involve multiple surgeries, use of a large muscle from another part of the body to cover the large loss of tissues, precise microsurgery to reconstruct the tiny blood vessels which keep the tissues alive. And whenever we are dealing with such injuries, we may, at the end of a tedious reconstruction lose the microsurgery effort and may also end up performing an amputation and not be in a position to save the limb. Continuous monitoring of not only the patient in the ICU but monitoring the microsurgical part every hour all through the night and day is essential. This involves cost and you have to be aware of all the consequences of this endeavour, particularly that no guarantee has been given to salvage this limb.

P: I don't understand all that you say doctor but please save the limb at whatever cost and please don't say you may have to amputate, please do everything doctor.

S: Thank you, we shall do our best and again please do understand that we do not guarantee that everything will be successful, but we will do our best.

P: Thank you doctor I know you will do your best. We shall pray that everything will be fine.

S: So the first operation is to take stock of the procedure and assess the damage, clean all the dirt and all that the wound has gathered from the road. This is to prevent

infection of this massively damaged limb. He will then require the orthopaedic surgeon to fix the bones and the anaesthetist to give him an anaesthetic for us to proceed with the reconstruction

Next Day.



S: Good Morning, The patient slept well overnight. The operation went off well and the limb has been tidied up so that it will now be ready for the reconstruction. The foot is still in shambles and microsurgery is the only option to save it. This will be done tomorrow. Again remember there are no guarantees of a salvage and the operation will be monitored for 48 hours and only after that we could confidently say that he is well on the way to heal well.

P: That's very encouraging doctor. Please go ahead with the procedure doctor.

At the end of the long and gruelling surgical procedure including microsurgical procedure, a muscle with its own blood supply is transplanted into a blood vessel in the injured limb. The procedure actually is a combination of at least 10 separate operations on their own merit which requires minimal to zero margin of error while performing the microsurgical vascular anastomosis. The procedures include a) relook and further debridement, of the injured area b) Evaluation of the defect c) Dissection of the recipient vessel in the leg and critical evaluation of the degree of the damage during the injury and its suitability for microsurgery, d) Planning of the donor tissue and harvesting it e) Orthopaedic reconstruction for the stabilisation and reconstruction of the ankle joint and bones f) Detachment of the donor tissue with its artery and vein delicately dissected out g) the crucial microanastomosis to connect the artery and the vein with the use of a microscope with zero margin of error

h) Immaculate use of this transplant tissue to reconstruct the damaged area. i) the donor site which provided the precious spare to be used in the reconstruction is closed j) finally more spare tissue in the

form of skin grafting is done with skin taken from the thighs. Finally, everything is checked again to make sure the transplanted tissue is alive and working. Remember this is the most unforgiving surgical procedure. Everything is checked and double checked before declaring the operation is completed.

Interview with the patient's relatives soon after the operation.

S: I am very glad to say that the procedure went on as planned and the foot and ankle is fully reconstructed and the transplanted muscle is working fine. He shall be monitored overnight every hour to see if there is any problem and if things go on well for 48 hrs. we could finally say that the surgery is a success.

P: Thank you very much doctor and hope that things will go as planned. Thank you very much again.

S: He shall be in the ICU overnight to be monitored and for pain relief and then if things go well he shall be shifted to the comfort of his own room in private to be with you all. This may happen tomorrow or the day after.

P: That's good doctor.



4 days after the surgery the limb is inspected and it is found that the reconstruction is a great success. The patients are now finally told that things are ok and that it will now be perfectly ok to expect a good recovery.

Microsurgery has been practiced from the early 70's. So what is new and what is the purpose of this article today.

Micro surgery involves the use of microvascular clamps. Clamps are used to stop blood flow into

vessels that need to be sutured. Once these clamps are applied, not only the blood flow is stopped but it causes distressing collapse of the blood vessel walls. Microsurgery involves successful suturing of these vessels with zero margin of error. Traditional methods obscured the edges of the vessels to Collapsed edges be seen clearly. Notice the vessel edges which are to be sutured is not easily observed. Sutures thinner than the

human hair is used to bring these edges. This requires enormous efforts and assistance too. Trainees needed a very long and often frustrating learning curve to master this technique. Many abandoned this after their initial dismal performance during training.

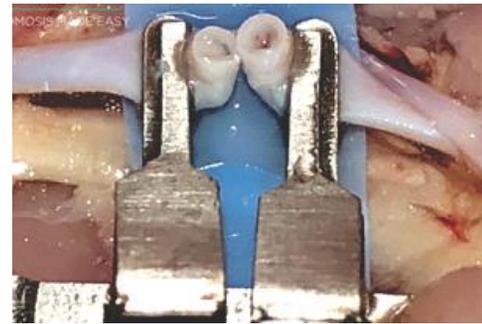


COLLAPSED EDGES

Dr V B N Murthy who has been training students in microsurgery for over 15 years now has developed an original solution in collaboration with IIT Madras.

Nstomoz a new clamp, was developed to Everted edges ensure that the vessel does not collapse. In fact, they deliver the edges exposing and showing both the ends of the vessels clearly. This is a great deskill step which eliminates error and instills a great confidence in young trainee surgeons. The edges can easily be sutured. Learning curve is short. This innovation won the Gandhian Young Technological Innovation (GYTI) Award in 2016 and The BIRAC in 2016 and prestigious Titan Design impact award from the TATA's in 2018. This has been considered to have a major impact on how microsurgery is going to be performed, especially for the young surgeons in training. A junior surgeon in training in specialities including vascular, cardiovascular, plastic and transplant surgeons can master it easily.

In India a depressing 1,00,000 amputations are carried out every year due to the lack of these specialised microsurgeons. This clamp could empower a lot of young surgeons to not only train but also continue to practising microsurgery contrary to the experience where only 10 to 15% of the trainees in the conventional training with the old clamps actually pursue this after their training.

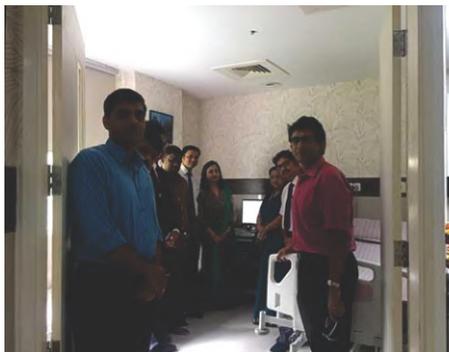
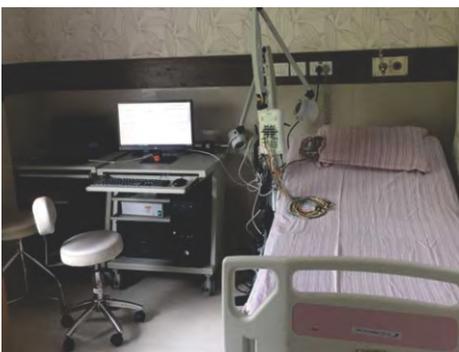


EVERTED EDGES

EVENTS



Inauguration of Advanced Diagnostic and Interventional Ultrasound Equipment [Esaote MyLab™9 eXP] at Kauvery Hospital



Inauguration of new Video EEG Machine at Kauvery Hospital, Chennai

EVENTS

Anaconda Stent Graft System - Press Meet



Inauguration of New Operation Theater for Kauvery Institute of Orthopedics and Neurosciences [KION]



World Multiple Sclerosis Day



Center of Excellence in Coronary Angioplasty



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Snoring, the first symptom of Sleep Apnea

Sleep Apnea is a serious disorder where abrupt cessation of breathing compromises the airway.

Untreated Sleep Apnea can cause:

- Morning Headaches
- Lack of concentration
- Systemic Hypertension
- Cardiovascular Diseases
- Stroke

Sleep Apnea can be managed with lifestyle modifications:

- Healthy diet
- Active lifestyle
- Adequate hydration



Kauvery Hospital comprises a
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to help you identify and
overcome Sleep Apnea

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