THE EXCHANGE

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A Knowledge Sharing Initiative by Medanta

Rakhi Gift of Liver from Sisters Saves Teen Brother

14-year-old Becomes the First Child in India to Undergo a Dual Lobe Liver Transplant at Medanta

Strengthening its legacy of pioneering 'medical firsts', Medanta's Liver Transplant team successfully conducted the country's first pediatric dual lobe liver transplant on a 14-year-old patient. Akshat became India's first child to undergo this rare surgery successfully where his two sisters, donated one half of their livers to save their brother's life.

The patient was fighting for his life just over a month ago, terminally ill with liver failure resulting in deep jaundice. He was in a pre-coma state. The case was made even more complex since the patient was overweight, weighing around 92 kg. While two of his sisters were eligible donors, they were both much lighter. Therefore, he required half a liver from both his sisters. To fit in both halves whilst keeping him from sinking through the long surgical procedure was challenging. Akshat, and his sisters had an excellent recovery after the surgery and are now enjoying normal lives a month later.

Akshat and his donor sisters along with Medanta's Liver Transplant team

Dr Arvinder Soin, Chairman, Medanta Liver Transplant Institute and Chief Surgeon in the case said, ''The decision to embark on a first-of-its-kind surgery for a critically ill child by putting all three siblings on the operating table together was a very tough one not just for the team but also for the parents. For a successful transplant, it is essential that the newly transplanted liver weighs at least 0.8 to 1% of the patient's body weight. In this case, a single donor liver half weighed only 0.5 to 0.55% of Akshat's weight. Hence two liver halves were needed to make up the required liver volume. We are delighted it all worked out well."

Dr Neelam Mohan, Director, Pediatric Liver Diseases and Transplantation, Medanta said, ''The patient's sisters were eligible donors, the situation required both of them to donate portions of their livers. While the initial period of recovery in ICU was complex for the patient, but eventually all the three siblings recovered well."

''This is a unique example of the power of organ donation to save lives. It draws attention to the fact that any healthy person can save a loved one's life by donating half their liver or a single kidney without suffering any harm," added Dr Naresh Trehan, Chairman and Managing Director, Medanta.

medanta.org/doctors/dr-arvinder-singh-soin

medanta.org/doctors/dr-neelam-mohan

THE EXCHANGE

Issue 42
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Spotlight

Medanta Launches Neuro-Gastroenterology and GI Motility Disorder Clinic

There are millions of neurons in the gastrointestinal tract of a human which interact with the neurons of the brain. Disorders of these neurons are referred as "Disorders of Gut-Brain Axis".

Neurogastroenterology is a subspecialty of gastroenterology that overlaps with neurology. It deals with diagnosis and treatment of common disorders like Gastroesophageal Reflux Disease (GERD), Irritable Bowel Syndrome (IBS), motility disorders like Achalasia Cardia & Jackhammer Esophagus and all altered motility disorder of GI tract. It also deals with common disorders like dyspepsia, bloating, constipation, and diarrhea. Neurogastroenterology primarily covers diseases of the intrinsic enteric nervous system, "brain of the gut," which is a part of the nervous system and controls motility, endocrine secretions, and microcirculation of the gastrointestinal system.

A common challenge patients face when it comes to gastrointestinal disorders is prolonged usage of over-the-counter medication. Due to lack of specialized care, patients tend to take medicines such as antacids and laxatives for so long that it starts damaging natural functionality of the gastrointestinal system.

The multi-disciplinary team at Medanta consisting of GI Surgeons, Pediatric GI Motility experts, counsellors and nutritionists treat motility disorders in a holistic manner.

Motility Disorders

Motility disorders affect how the muscles and nerves in the gastrointestinal tract move food from the esophagus to the stomach and intestines. Motility disorders can affect any part of the gastrointestinal tract including mouth, esophagus, stomach, intestines and colon.

Motility Disorder Symptoms

Both children and adults with motility disorders can have one or a few of the following symptoms:

- Constipation
- Diarrhea
- Abdominal (belly area) pain
- Nausea or upset stomach
- Trouble eating or swallowing
- Abdominal bloating
- Difficulty in eating
- Recurrent belching and burping
- Abdominal bloating and fullness

Treatment at Medanta

Motility symptoms and disorders treated at Medanta include:

Dysphagia - Trouble swallowing

Achalasia - When food cannot easily enter the stomach because the lower muscle of the esophagus becomes tight or tense, and the esophagus does not contract normally

Fecal incontinence - Inability to control bowel movements

Constipation - Infrequent or hard bowel movements

Gastroparesis - When food empties slowly from the stomach because the muscles do not work properly

Hirschsprung's disease - When the nerves of the colon do not grow properly before birth, leading to issues with constipation in infancy and childhood

Acid reflux - When the stomach contents flow backward into the esophagus and cause a burning in the chest. Acid reflux is also called heartburn or gastroesophageal reflux disease (GERD)

Chronic intestinal pseudo-obstruction - When intestinal tract become altered and inefficient

Chronic nausea and vomiting - Problems with nerves or muscles in the stomach that cause slow stomach emptying or digestion

Cyclic vomiting syndrome - Severe nausea and vomiting

Dyspepsia - Discomfort or pain that occurs in the upper abdomen

Eosinophilic esophagitis - Eosinophil builds up in the lining of the tube that connects the mouth to the stomach esophagus

Dysynergic defecation - Not able to pass stools satisfactorily

Gastroesophageal reflux - When stomach acid frequently flows back into the tube connecting the mouth and the stomach

Gastroparesis - Stomach cannot empty itself of food in a normal fashion

Irritable bowel syndrome - Common disorder that affects the large intestine

Diagnostic Tests at Medanta

Motility investigations performed at Medanta include:

Anorectal manometry This is when a doctor places a small, flexible tube with a small balloon on the end into the patient's rectum (bottom). The catheter has sensors to detect pressure. The balloon is inflated with different amounts of air to test how well the muscles and nerves react. This is completely pain free and is done with patient completely awake.

Esophageal manometry This is when a doctor passes a small, flexible tube from the patient's mouth down their esophagus. During the test, the patient swallows small sips of water to check how well the esophagus muscles work.

24-hour pH impedance manometry
This test measures how much acid is in the esophagus. It is used to diagnose acid reflux. A doctor inserts a flexible thin tube with sensors down the esophagus to check how much stomach acid flows up into the esophagus.

Breath testing This is when a doctor checks patient's breath to measure the amount of several gases. This can be used to diagnose lactose intolerance, fructose intolerance helicobacter pylori (bacteria that causes inflammation) and small intestinal bacterial overgrowth.

Esophageal impedance For this test, a doctor passes a small, flexible tube through the patient's nose and into their esophagus and stomach. A small monitor is attached to the other end of the tube. The tube stays in place for 24 hours. The monitor checks the amount of gas and liquid in the esophagus and signs of reflux.

Sitzmark study The patient swallows 24 small capsules, also known as markers. Five days later, they have an x-ray to see where in the body the markers are located. This provides information on how fast the intestines are working.

X-rays, CT enterography, MR Defecography or other imaging tests Imaging tests take pictures of different parts of the gastrointestinal tract to check for defects or blockages.

Videofluroscopy with Barium and Gastrograffin Studies
These are done to evaluate the swallowing mechanisms of the patient in association with manometric studies.

Treatment Options at Medanta

- Biofeedback therapy for chronic constipation and dyssynergic defecation
- Endoscopic surgeries like POEM, G-POEM for dysmotility of esophagus/stomach
- Anti-reflux therapies for GERD like GERDex, ARMA and ARMS
- Close association with GI surgeons for surgical management
- Scientific evidence based management for Irritable Bowel Syndrome (IBS)

medanta.org/doctors/dr-zubin-dev-sharma

THE EXCHANGE

Issue 42
September 2021

Medanta@Work

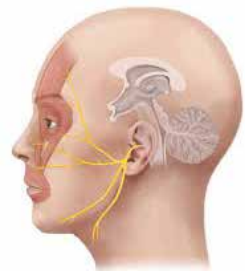
Evaluation, Diagnosis and Treatment of Pain at Medanta Pain Clinic

Whenever our body encounters damage or injury, we experience pain. Acute pain gets better with healing within a reasonable timeframe. However, chronic pain persists beyond the normal healing timeframe and may have multiple implications on patient's life in the form of depression, anxiety, relationship and performance issues. Pain Medicine has developed as a specialty over the past few decades. Medanta uses technique and technology to treat pain and helps people address chronic pain and improve their quality of life.

Types of pain treated at Medanta Pain Clinic

Spinal Pain Back or neck pain, if not treated well can become a long-term problem with various psychosocial issues. Sometimes back or neck pain can radiate to legs or arms due to nerve compression also known as Sciatica.

Headache and Facial Pain Chronic headache and facial pain is extremely distressing for patients. The most common cause for headache is either Tension Headache or Migraine, and the most common cause for facial pain is Trigeminal Neuralgia.



Neuropathic Pain (Nerve Pain) Neuropathic pain (Nerve pain) is a common type of chronic pain caused by disease or damage of nerve e.g. CRPS (Complex Regional Pain Syndrome), Brachial Plexus injury, Trigeminal Neuralgia, Post-Herpetic Neuralgia, Post back / Neck surgery syndrome (Failed back syndrome / Failed neck syndrome), Spinal Cord injury syndrome, Post stroke pain, Chronic Migraine, Cluster headaches. The pain is typically described as burning, aching or feeling of electric shocks in the area supplied by the affected nerve. Some patients can have pins & needles, numbness and weakness caused by the damaged nerve.

Cancer Pain Management Around 90% of patients diagnosed with cancer suffer from pain. Main causes of pain are cancer itself and the treatment received to treat cancer. Medanta Pain clinic works closely with medical, surgical and radiation oncology departments for comprehensive management of patients with cancer pain. The management of cancer pain includes decreasing the burden of the disease with medicines / surgery or radiation and treatment of pain according to the WHO ladder.

Treatment available at Medanta Pain Clinic

Neuro-Modulation Neuro-Modulation is an innovative device-based treatment for chronic nerve pain occurring due to accident, prior surgery, disease or entrapment of nerves. Such pains are invariably resistant to various medications, physiotherapy or rehabilitation programs. Neuromodulation technique involves implanting electrical devices or drug

delivery systems within the body to treat such pain. Electrodes can be implanted next to nerves (Peripheral Nerve Stimulation), the spinal cord (Spinal Cord Stimulation) or within the brain (Deep Brain Stimulation / Motor Cortex Stimulation), so that the pain pathways can be modulated. The drug delivery system (pump) delivers pain killers directly into the spinal cord improving the effectiveness of the drugs and reducing side effects.

Epidural Injection This is an injection injected into the Epidural space present inside the spine. This space contains the spinal nerves which are the target of giving the injection. The target area depends on the pathology i.e. it can be into the Cervical, Thoracic, Lumbar or Caudal Epidural space.

Epidural steroids are given usually for pain in the legs where we target the Lumbar or Caudal Epidural space, and it relieves the symptoms for about six to twelve months depending on the severity of the illness. This duration of pain relief is utilized for rehabilitation of the patient to enhance the benefit. Cervical Epidural injection can be used for pain in upper arm due to pathology in the cervical spine. However, epidural injection may not relieve pain in all patients. Patients with very severe degeneration of spine may need surgery.

Facet Joint Denervation Facet joint on each side of the vertebral bodies provide stability and ability to bend and twist. These joints are located throughout the spine and are a source of pain in large number of patients complaining of back or neck pain. Facet joint denervation procedure involves heating and burning the nerves supplying the joints with a special needle which has a special tip that could be heated. This procedure is performed after pain relief from a diagnostic test injection known as a facet joint nerve block or medial branch block.

Sacroiliac Joint Block The sacroiliac or SI joint joins the sacrum and the iliac bone, which make up the pelvis. This joint can sometimes be the source of back pain. SI joint block is an injection of a mixture of local anesthetic and steroid into the joint.

Trigger Point Injections Trigger point is a point in a muscle which produces pain when pressed. Trigger point injection is a dry injection (without any drug) or local anesthetic into the painful area in the muscle.

Dorsal Root Ganglion Block The dorsal root ganglion is a cluster of cell bodies which exits the spinal cord through a small opening in the spine. This space can become very small due to various causes and be the source of pain around the nerve. This injection deposits steroid in this area. The main aim of this injection is to reduce pain. Steroid injected has local effect on the nerve by reducing inflammation and irritation. The pain relief is although temporary but occasionally may even last longer.

Coeliac Plexus The Coeliac Plexus is a bundle of nerves located in front of the diaphragm and behind the stomach near the celiac artery and the abdominal aorta. A coeliac plexus block involves injecting nerve destroying solutions either Phenol or Absolute Alcohol around the coeliac plexus in the abdomen. By doing this, the pain carrying nerves are destroyed and it reduces or eliminates the pain specially coming from cancer of upper abdominal organs especially pancreas, liver, gall bladder and stomach.

medanta.org/doctors/dr-raj-kumar

THE EXCHANGE

Issue 42
September 2021

COVID-19 vs. Dengue

Coronavirus disease (COVID-19) is an infectious disease mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. Dengue, on the other hand, is a mosquito-borne viral infection. However, initial onset of both the diseases have overlapping symptoms. As both the diseases can be fatal in nature, it is crucial to understand the basic similarities and differences.

Both dengue and COVID-19 can present as mild diseases which subside itself and patients can recover at home. However, both COVID-19 and dengue can get severe resulting in a patient's death.

Both the diseases are not age related. Anyone of any age can get infected by COVID-19 or dengue. Patients with various underlying chronic conditions such as heart diseases, kidney diseases or diabetes are at more risk for complications.

It is recommended that the patients seek clinical or hospital-based care at the onset of the symptoms as both the diseases may worsen before the test results arrive.

Dengue warning signs include persistent vomiting, mucosal bleeding, difficulty in breathing, bleeding from orifice, lethargy/ restlessness and postural hypotension.

COVID-19 warning signs include difficulty in breathing, persistent headache, new confusion, inability to wake or stay awake, fall in oxygen levels and persistent high-grade fever beyond 7 days. This doesn't include all possible signs and symptoms which may vary from patient to patient.

Dengue	COVID-19
Transmission	
Dengue is caused by one of any of four related viruses: Dengue virus 1, 2, 3, and 4, transmitted to people through the bites of infected Aedes species mosquitoes	COVID-19, a respiratory illness caused by the virus SARS-CoV-2, is mainly transmitted when droplets containing the virus are inhaled or come into contact with the eyes, nose, or mouth
Incubation Period	
The incubation period for dengue ranges between 3-10 days, typically 5-7 days	The incubation period for COVID-19 may extend to 14 days, with a median of 4-5 days from exposure to symptoms onset

Signs and Symptoms

Mild to moderate disease

Febrile phase (0-7 days)

- Fever
- Headache with eye pain
- Nausea
- Vomiting
- Rash
- Leukopenia

Warning signs for severe illness:

abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleeding, lethargy, restlessness, and liver enlargement

Critical Phase

Warning signs may appear, and rapid clinical deterioration may occur within 48 hours after defervescence (3-7 days after fever onset)

Mild to moderate disease

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

This is not an inclusive list

THE EXCHANGE

Issue 42
September 2021

Severe Illness

Severe dengue is defined by dengue with any of the following symptoms and signs:

- Plasma leakage leading to shock
- Fluid accumulation with respiratory distress
- Severe bleeding with thrombocytopenia
- Severe organ impairment such as liver disease with elevated transaminases, or meningoencephalitis with impaired consciousness
- Cardiac impairment

Among patients who developed severe disease, the medium time to dyspnea ranged from 5 to 8 days, the median time to acute respiratory distress syndrome (ARDS) ranged from 8 to 12 days, and the median time to ICU admission ranged from 10 to 12 days

Signs and symptoms for severe illness can include:

- Dyspnea
- Hypoxia
- Respiratory failure
- Shock
- Multi-organ system dysfunction
- Clinicians should be aware of the potential for some patients to rapidly deteriorate one week after illness onset

Risk Factors for Severe Illness

Risk factors for severe dengue include:

- Age (infant)
- Patients with chronic medical conditions, including diabetes, asthma, or heart disease

Risks factors for severe illness with COVID-19 include:

- Age>65
- Underlying conditions like cardiovascular disease, diabetes, chronic respiratory disease, hypertension, prior stroke, liver disease, obesity, chronic lung disease, chronic kidney disease undergoing dialysis

medanta.org/doctors/dr-sushila-kataria

DON'T TAKE
FEVER LIGHTLY

Because it could be a warning sign for:

- Dengue
- Infection
- Malaria
- Insect bites
- Typhoid
- COVID-19
- Leptospirosis
- Chikengunya
- Hepatitis A
- Swine flu

Consult our expert doctors at **Medanta Fever Clinic**
Monday to Saturday | **08:00 AM to 08:00 PM**
+91 124 4834 567

WE ARE PROUD OF YOU!

Kudos to

Dr. Ashok Kumar Vaid
(Chairman, Medical and Haemato Oncology, Medanta Gurugram)
on being awarded the prestigious CME Dronacharya Award
for his exceptional contribution in Oncology

For **EMERGENCY** DIAL **1068**

Medanta - Gurugram
Sector - 38, Gurugram, Haryana - 122 001 I Tel: +91 124 4141 414 I Fax: +91 124 4834 111
info@medanta.org

Medanta - Lucknow
Sector - A, Pocket - 1, Sushant Golf City,
Amar Shaheed Path, Lucknow 226030 I Tel: +91 522 4505 050

Medanta - Patna
Jaiprabha Medanta Super-Specialty Hospital, Kankarbagh
Main Road, Kankarbagh Colony,
Patna 800 020, Bihar I Tel: +91 82922 22333

Medanta - Ranchi
P.O. Irba, P.S. Ormanjhi, Ranchi - 835 217, Jharkhand
Tel: +91 651 7123 100

Medanta - Indore
Plot No. 8, PU4, Scheme No. 54, Vijaynagar Square,
AB Road, Indore, MP I Tel: +91 731 4747 000

Mediclinic - Delhi
E - 18, Defence Colony, New Delhi - 110 024
Tel: +91 11 4411 4411
mediclinic@medanta.org

Mediclinic Cybercity - Gurugram
UG 15/16, DLF Building 10 C, , DLF Cyber City,
Phase II, Gurugram 122 002
Tel: +91 124 4141 472
mediclinic.cybercity@medanta.org