

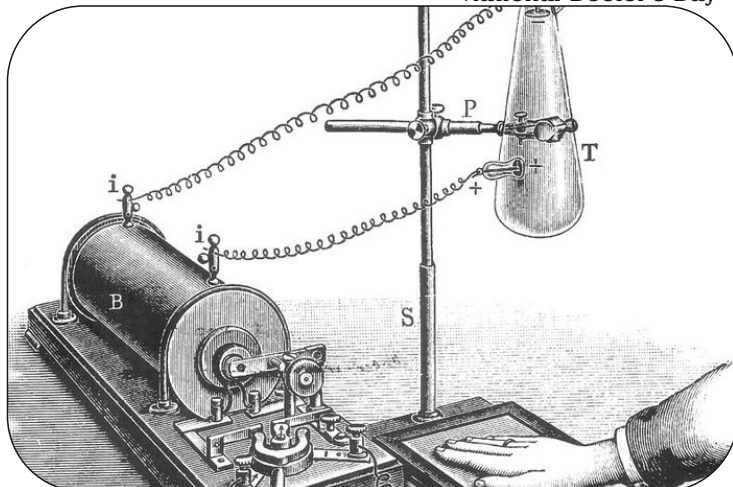


YOUR HEALTH

An Official Monthly Publication in English of the
Indian Medical Association since 1952 for the people
to propagate Health Awareness in the Community



Observation of
National Doctor's Day



YOUR HEALTH

OF INDIAN MEDICAL ASSOCIATION
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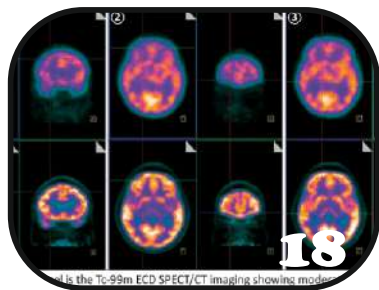
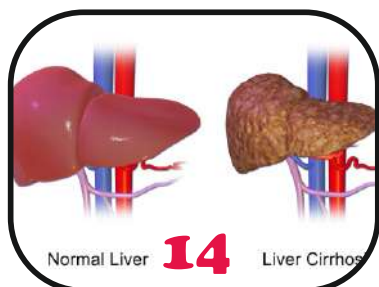
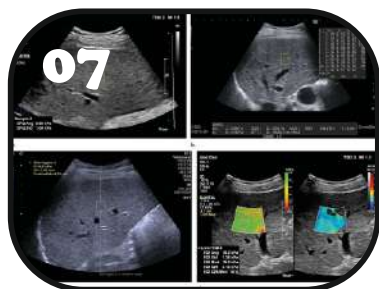
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Perception of Doctor–Patient Relationship in the Present Time from the Viewpoint of Doctors

Editorial

Doctor–patient relationship has been hailed as the mutual trust, confidence, and a shared sense of goodwill. Doctors have been considered as god's apprentice and divine healers in the past. Over time, the dynamics of the society has changed.

In most of the developing and some of the developed countries, a major percentage of health care is still privatized and patients with major illnesses often go through financial crisis coping with the cost of illness. With the population explosion, the doctor–patient ratio has dropped. Most of the doctors are overworked and fail to give the necessary time on per-patient basis.

All this and many other factors have contributed to loss of trust in doctor–patient relationship. It is strained in the present times, with more and more cases of violence against doctors being reported. The number of medical litigation cases has snowballed and people are getting less and less tolerant toward even minor complications. This has taken a toll on the physician's mindset, and health-care providers are getting less empathetic to patients. This vicious cycle of events has led to the present scenario.

The doctor–patient relationship has been categorized into four key processes, which includes valuing the patient as a person, management of power imbalance, commitment, and the physician's competence and character. This, in turn, leads to three important elements of trust, peace and hope, and being acknowledged.

In different studies it is being showed that:

- Doctor–patient relationship is very important in the medical context, but when distorted, it can lead to bad outcomes. A distorted system and lack of infrastructure were identified as the main culprits for the strained doctor–patient relationship.
- Another study showed that doctor–patient relationship evolves through a process of longitudinal care which focuses on one doctor seeing a patient every time and following up and a patient's experience of his/her initial consultancy with the doctor.



Dr. Kakali Sen

Hony. Editor, Your Health

As is evident, a patient's perspective is very different from that of doctors as his/her focus is on establishing an emotional bond with the doctor. This theory was strengthened in a study, which showed that the patient develops an emotional relationship with the doctor, and he/she feel a certain sense of vulnerability in their relationship.

In India, we have unique cultural, social, political, and economic dynamics, which may affect the doctor–patient relationship in a unique way.

In this study, we intended to know the perspective of doctors about the doctor–patient relationship in the present time, the problems they face, and the possible solutions from their viewpoint.

We used qualitative analysis as we desired a detailed and in-depth perspective of doctors about this issue. It was done by the help of a series of in-depth interviews and focus group discussions (FGDs) among resident doctors of different specialties from the same hospital. Ethical approval was taken from the institutional ethics committee for the study.

From the Desk of Secretary

Radiology need for the treatment of almost all the specialities be it orthopaedics, cardiology, oncology, rheumatology, gastroenterology.

The medical profession is indebted to the Founding Father of Radiology: Wilhelm Conrad Röntgen (Roentgen).

The history of radiology has started with the discovery of X-Ray by Wilhelm Roentgen in 1895. During his career, physicist Wilhelm Conrad Röntgen centered his work on studying subjects such as: piezoelectricity, absorption and specific heats of gases, and capillary action of fluids. These studies, while experimenting with a cathode-ray tube and glass at the University of Würzburg, unexpectedly led to the 1895 discovery of invisible rays capable of passing through most substances, leaving shadows which could be recorded on photographic plates. Due to the unknown nature of these rays at the time, Röntgen labelled them as "X-rays".

He shared his extraordinary findings within his report titled, "On a New Kind of Rays", which was published on December 28, 1895. News of his discovery quickly spread, particularly within the medical field. Röntgen's exceptional work in discovering the foundation of what is to become modern radiology and his other scientific contributions resulted in him being awarded the first Nobel Prize in physics in 1901.

Radiology has sprawled from X-Ray to CT scan to MRI to PET over the period.

Depending upon the approach used during the procedure, the best specialists in India broadly classify Radiology into two categories:

1. Diagnostic radiology- It involves a broad spectrum of imaging techniques to see the various structures and organs inside the body to determine the root cause. Some of the most common procedures include:

- Computed Tomography (CT) scan.
- Fluoroscopy for obtaining real-time moving images of the internal organs.
- Magnetic Resonance Imaging (MRI).
- Mammography for breast screening.
- Magnetic Resonance Angiography (MRA).
- Nuclear Medicine.
- Positron Emission Tomography (PET) imaging/scan. PET combined with CT scan can be used for the detection of various malignancies.
- Ultrasound.



Dr. Samarendra Kumar Basu

Hony. Secretary, Your Health

2. Interventional radiology- Some of the most common interventional cardiology procedures include:

- Angiography/angioplasty and stent placement in patients with narrowed or blocked arteries to evaluate the extent of blockage and clear it.
- Embolization to stop the flow of blood in a particular area to treat a tumour or aneurysm.
- Radiofrequency ablation, cryoablation, or microwave ablation to burn tumours.
- Vertebroplasty and Kyphoplasty to treat vertebral compression fractures.
- Needle biopsies of different organs, like lungs, uterus etc. to detect abnormality or malignancy.
- Breast biopsy for breast cancer.
- Uterine artery embolization to halt blood flow to the uterine.
- Feeding tube placement in patients who are not able to swallow their food.
- Venous access catheter placement, such as ports and PICCs.

This issue is dedicated to Radiology. I thank Dr. Bibartan Saha for initiating this. I hope it will be beneficial for the readers.

Inauguration of Your Health Publication - June 2023 Edition and participate in the Celebration of Doctor's Day in association with IMA Bengal State Branch in the Auditorium of Mother & Child Hub of Calcutta National Medical College and Hospital on Saturday, 01st July 2023.



Ultrasound, Role of Liver Elastography

The use of shear-wave elastography (SWE) for the non-invasive assessment of liver fibrosis has grown rapidly, and substantial new information regarding disease-specific liver stiffness is available since the publication of the consensus statement of the SRU in September 2015 (1,2). Vibration-controlled transient elastography has been available for almost 20 years and has a large body of literature (3–5). Acoustic radiation force impulse (ARFI) techniques, both point SWE (pSWE) and two-dimensional (2D) SWE have been available for almost 10 years. Currently, several vendors implement ARFI technology (both pSWE and 2D SWE, which are described in detail elsewhere [2,6]) in their US equipment and provide suggestions for optimal technique and assessment of data quality. Since publication of the previous guidelines, several additional vendors have introduced ARFI techniques, and the development of quality or confidence maps have led to the ability to assess the quality of the results. With excellent, less-expensive treatments for both hepatitis C and hepatitis B, these patients are being treated regardless of the liver stiffness value.

This led to a need to update the SRU recommendations on the use of ARFI SWE for the assessment of fibrosis in patients with diffuse liver disease, as a guide for performing and interpreting the examination, taking into account the interim technology advances and published studies.

Chronic liver disease is a world-wide problem. It can be due to a wide range of inciting factors. Its major consequence is increasing deposition of fibrous tissue within the liver leading to the development of cirrhosis, which in turn may give rise to portal hypertension, hepatic insufficiency, and hepatocellular carcinoma. The stage of liver fibrosis is important to determine the prognosis, for surveillance, for prioritization for treatment, and even to determine the potential for reversibility (1,2,7–9). The spectrum of fibrosis is a continuum, and patients with a higher stage of liver fibrosis (stage F3–F4) are at risk for clinical complications (eg, ascites, variceal hemorrhage,

hepatic encephalopathy). For patients with severe fibrosis or liver cirrhosis who are asymptomatic, the term “compensated advanced chronic liver disease” (cACLD) has been proposed (10,11). In patients with cACLD, the degree of portal hypertension is predictive of decompensation and/or death (10,11). A portal pressure (as assessed by means of the hepatic venous pressure gradient) of 10 mm Hg or higher (normal, 3–5 mm Hg)—a threshold that is designated “clinically significant portal hypertension” (CSPH)—has been associated with an almost four-fold higher risk of decompensation compared with lower pressures (12). Many clinical guidelines recommend the use of non-invasive tests for the detection and staging of liver fibrosis (3,5,13,14). Although biopsy is historically the reference standard for staging fibrosis, it is imperfect, with considerable interobserver variability and k values varying from 0.5 to 0.9 in the literature (15,16). It should be



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emphasized, however, that histologic examination of liver specimens does provide information on inflammation that is not yet possible to evaluate with US. Despite this benefit, the use of noninvasive tests is favored due to the need for longitudinal monitoring and to safely extend screening to larger populations.

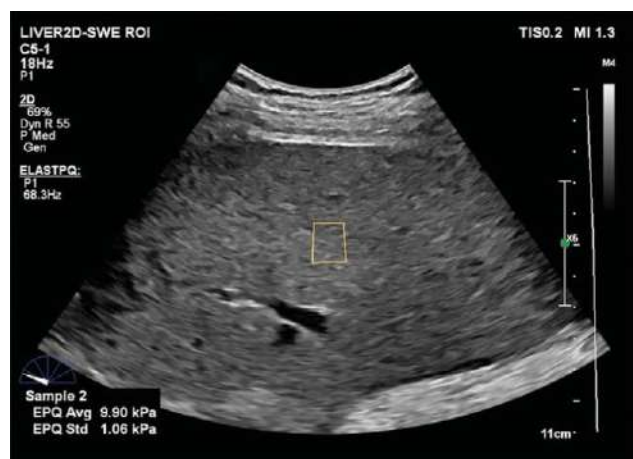
There are many different causes of chronic liver disease world- wide. Chronic viral hepatitis (hepatitis C in the West, hepatitis B in the East) remains a major risk factor. Although the incidence of cACLD may be lower because of the advent of highly effective interferon-free antiviral therapies, staging of liver fibrosis is still necessary before treatment because patients with cACLD require continued surveillance for hepatocellular carcinoma and/or vari- ces even after the clearance of the virus (17,18).

A rising cause of chronic liver disease worldwide is nonalco- holic fatty liver disease (NAFLD). NAFLD is currently the most common liver disease in the United States, with a worldwide prevalence of 25% with imaging estimation (19). NAFLD ranges from simple steatosis to nonalcoholic steatohepatitis, which may progress to liver fibrosis and cirrhosis with its complications. Although there is no specific therapy for nonalcoholic steatohep- atitis, lifestyle modifications have been associated with a decrease in fibrosis and portal hypertension (20,21), and identification of cACLD allows for screening and surveillance of varices and hepatocellular carcinoma. Therefore, the availability of non- invasive tools to exclude or diagnose cACLD in these patients is of the utmost importance.

Table 1: Recommendations for Performing Liver Stiffness Measurements with the ARFI Technique

- Patients should fast at least 4 hours before the examination
- Measurement should be taken at an intercostal space with the patient in the supine or slight lateral decubitus (30°) position with right arm in extension
- Measurements should be taken at neutral breathing during a breath hold.
- Measurement should be taken at least 15–20 mm below liver capsule in pSWE
- The 2D SWE region of interest can be positioned closer to the liver capsule, if reverberation artifacts are avoided; however, the measure- ment box should be positioned at least 15–20 mm below the liver capsule
- Results can be reported in meters per second or in kilopascals
- In most systems, the maximum ARFI push pulse is at 4–4.5 cm from the transducer, which is the optimal location for obtaining mea- surements. In most systems, the ARFI push pulse is attenuated by 6–7 cm, limiting adequate shear wave generation
- Major potential confounding factors include liver severe inflammation indicated by AST and/or ALT elevation greater than five times upper normal limits, obstructive cholestasis, liver congestion, acute hepatitis, and infiltrative liver disease (these all lead to overestimation of the stage of fibrosis)
- Ten measurements should be obtained with pSWE, and the final result should be expressed as the median together with the IQR/M
- Fewer than 10 measurements with pSWE can be obtained (at least five); however, the IQR/M should be within the recommended range
- For 2D SWE, five measurements should be obtained when the manufacturer's quality criteria are available, and the final result should be expressed as the median together with the IQR/M
- The most important reliability criterion is an IQR/M of 30% of the 10 measurements (pSWE) or five measurements (2D SWE) for kilopascals and 15% for measurements in velocity (in meters per second)
- Adequate B-mode liver imaging is a prerequisite for point and 2D SWE as shear waves are tracked with B-mode

Note.—ALT = alanine aminotransferase, ARFI = acoustic radiation force impulse, AST = aspartate aminotransaminase, IQR/M = inter- quartile range-to-median ratio, pSWE = point SWE, SWE = shear-wave elastography, 2D = two-dimensional.



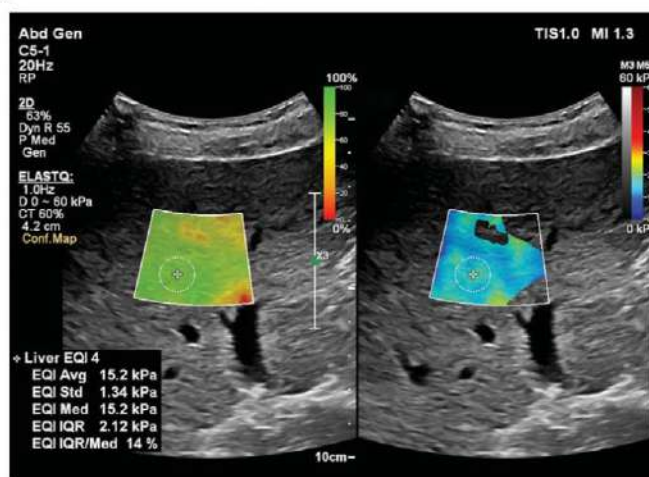
a.



b.



c.



d.

Table 2: Recommendation for Interpretation of Liver Stiffness Values Obtained with ARFI Techniques in Patients with Viral Hepatitis and NAFLD

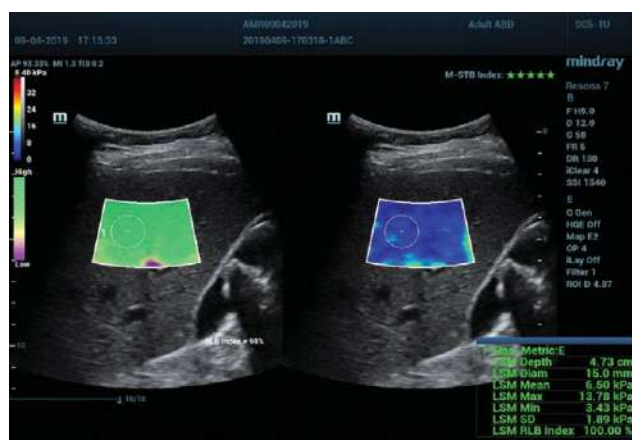
Liver Stiffness Value	Recommendation
5 kPa (1.3 m/sec)	High probability of being normal
9 kPa (1.7 m/sec)	In the absence of other known clinical signs, rules out cACLD. If there are known clinical signs, may need further test for confirmation
9–13 kPa (1.7–2.1 m/sec)	Suggestive of cACLD but need further test for confirmation
13 kPa (2.1 m/sec)	Rules in cACLD
17 kPa (2.4 m/sec)	Suggestive of CSPH

Note.—ARFI = acoustic radiation force impulse, cACLD = compensated advanced chronic liver disease, CSPH = clinically significant portal hypertension, NAFLD = non-alcoholic fatty liver disease.

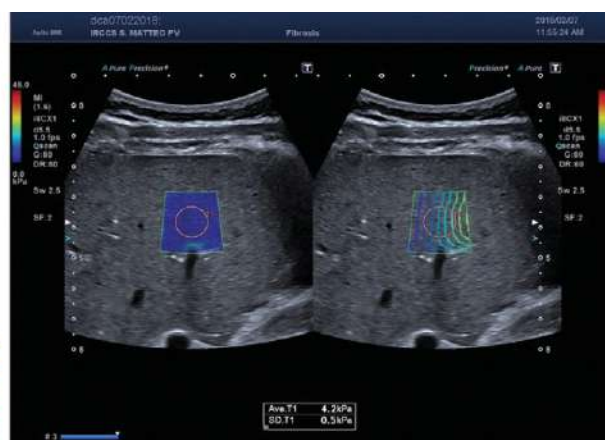
Table 3: Recommendations for Performing Spleen Stiffness Measurements with the ARFI Technique
Recommendations

- Patients should fast at least 4 hours before the examination (56)
- Measurement should be taken at an intercostal space with the patient in supine position with left arm in extension
- Measurements should be taken during breath hold at neutral breathing (57)
- Measurement should be taken at least 15 mm below spleen capsule with pSWE and reverberation artifacts avoided with 2D SWE. The region of interest should be placed perpendicular to the splenic surface
- Results can be reported in meters per second or kilopascals
- In most systems, the maximum ARFI push pulse is at 4–4.5 cm from the transducer, which is the optimal location for obtaining measurements. In most systems, the ARFI push pulse is attenuated by 6–7 cm, limiting adequate shear wave generation
- Ten measurements should be obtained with pSWE, and the final result should be expressed as the median together with the IQR/M
- For 2D SWE, five measurements should be obtained, and the final result should be expressed as the median together with the IQR/M
- The most important reliability criteria is a IQR/M of 30% of the recommended measurements for kilopascals and 15% for meters per second

Note.—ARFI = acoustic radiation force impulse, IQR/M = interquartile range-to-median ratio, pSWE = point SWE, SWE = shear-wave



e.



f.



g.

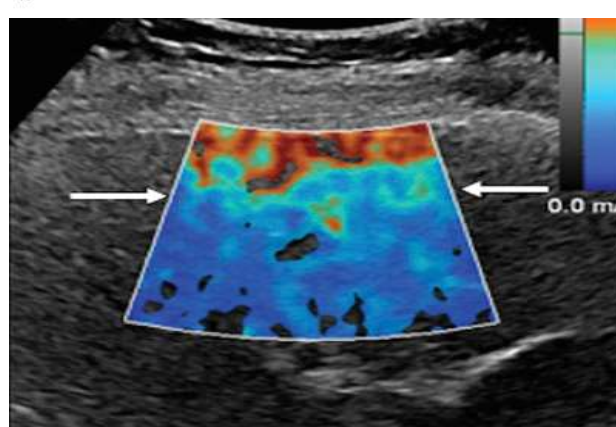
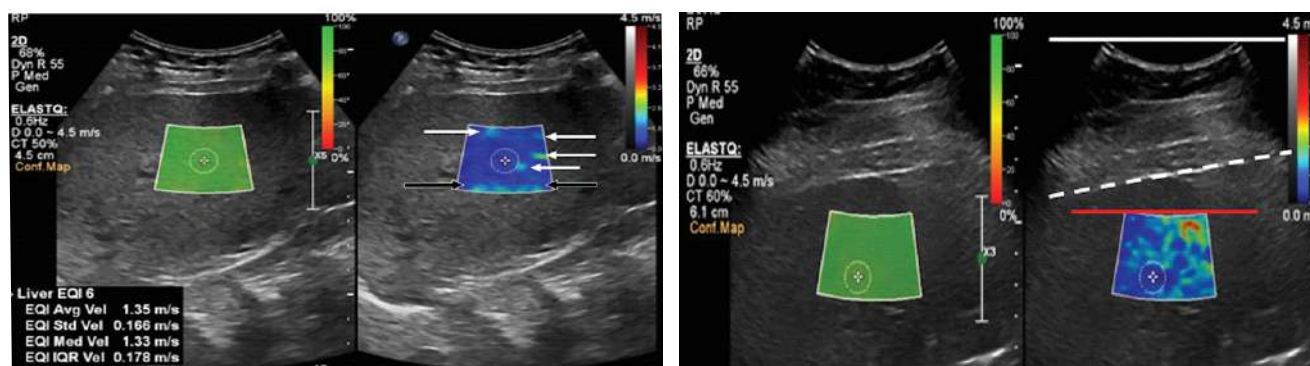


Table 4: Summary of Recommendations

Protocol for acquisition: As reported in Table 1, the most important criterion is IQR/M 30% for values in kilopascals and 15% for values in meters per second. In pediatric patients, the same protocol must be used

- Protocol for 2D SWE acquisition in children who are unable to hold their breath: The consensus panel suggests recording a 2D SWE cine loop for up to 30 seconds if real-time 2D SWE is available, reviewing it, and choosing the image that demonstrates the most stable pattern for the stiffness measurement. No more than one image should be chosen in each recorded cine loop
- Cut-off values: “rule of four” (5, 9, 13, 17 kPa) for the ARFI techniques for viral causes and NAFLD (Table 2) NAFLD and rare diseases in pediatric patients: The number of published pediatric studies of NAFLD remains low, and the cutoff values for staging liver fibrosis varies between studies. It is expert opinion that each patient becomes his or her own control, using the stiffness delta changes over time to evaluate the efficacy of the treatment or the progression of disease—remembering that the measurement reflects stiffness and not fibrosis
- Follow-up: The use the delta changes of LS values over time should be used instead of the absolute values. In patients with chronic viral hepatitis who are successfully treated, the baseline LS stiffness should be that obtained after viral eradication or suppression. A clinically significant change should be considered when the delta change is greater than 10%. Applying this rule, LS assessment can be suitable for evaluating all clinical conditions leading to an increase of LS, independent of the disease cause including nonfibrotic causes of LS increase (eg, congestive heart failure)
- Spleen stiffness: It appears that spleen stiffness is better correlated with portal pressure than LS. However, there are differences in cut-off values between studies and the level of evidence is still low to recommend spleen stiffness in the diagnostic work-up of patients with cirrhosis Reporting: The report should include the system vendor name, the SWE technique (pSWE or 2D SWE), the probe used, the number of acquisitions, the IQR/M, and conclusions (Fig 5)

Note.—ARFI = acoustic radiation force impulse, IQR/M = interquartile range-to-median ratio, LS = liver stiffness, NAFLD = non-alcoholic fatty liver disease, pSWE = point SWE, SWE = shear-wave elastography, 2D = two-dimensional.



Advanced Laparoscopic

What is advanced laparoscopic surgery?

Laparoscopic surgery, also called minimally invasive surgery (MIS), bandaid surgery, or keyhole surgery, is a modern surgical technique in which operations are performed far from their location through small incisions (usually 0.5–1.5 cm) elsewhere in the body.

What is laparoscopy?

Laparoscopic surgery is often referred to as minimally invasive surgery. Laparoscopy utilizes small (1/2 inch or smaller) incisions instead of the large incision used in traditional open surgical procedures. Through the small incisions trocars (pen shaped tubes with a valve) are inserted into the abdominal cavity, which is inflated with carbon dioxide gas to create space between the internal organs and allow visualization and organ manipulation. One of the trocars is used to allow access for the video camera, which also has a built-in light source.

Today, most modern laparoscopic systems provide high definition image quality and the surgeon and the team view the procedure on a separate video monitor. These systems provide outstanding visualization and access to anatomical structures that are otherwise only accessible via large incisions that may extend to the back or the chest.

The surgical instruments are inserted through additional trocars. The laparoscopic instruments are



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designed to fit through the thin trocars yet provide similar efficacy to their traditional counterparts. This approach is considered less invasive because it replaces the need for one long incision to open the abdomen. The number of incisions and trocars depends on the complexity of the procedure.

The revolution of laparoscopic surgery started in the end of the 1980s with the advent of laparoscopic cholecystectomy (removal of the gallbladder). Although, initially most surgeons were skeptical, at least, about the new technology, the dramatic improvement in postoperative pain and recovery time was undeniable.

Application of the laparoscopic technique requires skills that are often completely different from skills necessary to complete traditional surgical procedures. By today, generations of new surgeons were trained

with this technology and the laparoscopic approach became the gold standard not only in gallbladder surgery, but also, more complex operations such as splenectomy, adrenalectomy, anti-reflux operations and weight loss surgery.

Novel technologies are being developed based on the experience in laparoscopic surgery, which include robot-assisted surgery, hand-assisted laparoscopy, SILS (single incision laparoscopic surgery), NOTES (natural orifice transluminal endoscopic surgery). By now, almost every known general surgical operations have been performed laparoscopically. Yet, we learned that in some operations laparoscopy simply do not provide a benefit or may increase the risk of the surgery. There are advanced laparoscopic operations that are, due to their complexity, only performed by expert surgeons who often completed additional training beyond their basic general surgical education.

We at Commonwealth Surgical Associates offer a full range of advanced laparoscopic procedures, that include but not limited to:

- laparoscopic cholecystectomy
- laparoscopic appendectomy

- laparoscopic hernia surgery (groin hernia, ventral hernia, incisional hernia)
- laparoscopic hiatal hernia repair
- laparoscopic treatment of heartburn/reflux (Nissen, Toupet fundoplication)
- laparoscopic treatment of achalasia (Heller myotomy, Dor fundoplication)
- laparoscopic bowel resection
- laparoscopic colorectal surgery (for diverticulitis, cancer, inflammatory bowel disease)
- laparoscopic stomach surgery
- laparoscopic splenectomy
- laparoscopic adrenalectomy
- laparoscopic lymph node biopsy
- laparoscopic weight loss surgery

Please note that not every problem is amenable for the laparoscopic approach and your particular condition may prevent this technique to be applied. Your surgeon will discuss the options with you in detail and eventually it is the surgeon's job to decide on type of surgical technique to be utilized.



Liver Cirrhosis – Suspicion & Diagnosis



Dr. Vikash Prakash

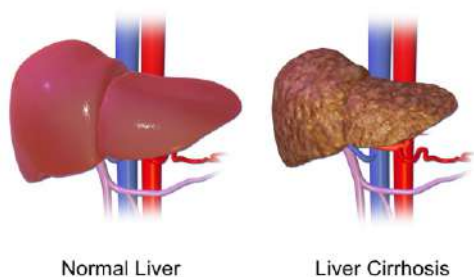
DM (Gold Medal)

Institute of Liver and Biliary Sciences, Delhi

It is very important to diagnose liver cirrhosis. Equally important is assessment of the damage before embarking on treatment.

When would I suspect that the patient has liver cirrhosis.

If on complete blood count the patient has a low platelets, hemoglobin and a low TLC we should have in



mind either the patient is suffering from liver cirrhosis or some blood disorder.

In a particular setting like diabetes, fatty liver or heavy alcohol intake with a family history of cirrhosis we should keep in mind that the liver may be damaged. If Ultrasound shows a large spleen or caudate lobe hypertrophy we should suspect cirrhosis.

How to diagnose cirrhosis ?

If we suspect cirrhosis the next test would be a fibroscan or any good elastography test.

It will tell us the hardness of liver. If the hardness of liver is of the range of cirrhosis we would like to look for varices in endoscopy.

Presence of varices gets us to stage II cirrhosis.

An important point here is absence of varices does not rule out cirrhosis.

The Next step would be to evaluate the cause of cirrhosis which can be viruses or others.

A triple phase CECT abdomen is required to see for presence of liver cancer or portal vein thrombosis .

Blood AFP levels and PIVKA II will point towards presence of hepatocellular carcinoma. Subsequently treatment can be started.



Anklosing Spondylitis - Fighting the Pain

What is Ankylosing spondylitis?

Ankylosing spondylitis (AS) is a common inflammatory rheumatic disease that affects the axial skeleton, causing characteristic inflammatory back pain, which can lead to structural and functional impairments and a decrease in quality of life.

What are the initial warning signs and key symptoms?

Early signs and symptoms of AS include pain and stiffness in the lower back, buttocks and hips, in young adults, especially in the morning and after periods of inactivity, which improve with exercise, but are not relieved by rest. The pain can take several weeks or months to develop. Pain, stiffness, swelling, redness, and warmth in the heels, ankles, knees, elbows, ribs, upper spine, shoulders, and neck can also be warning signs. There might also be fatigue and features of specific organ involvement like anterior uveitis (pain & redness of eyes), psoriasis (scaly rashes over skin) and chronic inflammatory bowel disease (altered bowel habits, abdominal pain or bloody diarrhea).

What are the causes of this disease?

The cause of AS is still unknown, but in many cases, there seems to be a link with a particular gene known as HLA-B27. Research has shown more than 90% people with AS carry HLA-B27 gene. Having this gene does not necessarily mean someone will develop AS, but makes more vulnerable to developing AS. AS can run in families and the HLA-B27 gene can be inherited from another family member. The risk of siblings or first-degree relatives of AS patients having AS is significantly higher.

What are all the treatment options?

All patients should do regular joint-directed exercises that promote spinal extension and mobility. There are many drugs treatment options. The first lines of treatment are the NSAIDs or pain-killers, which

provide great relief to most patients. For localized joint swelling, injections of corticosteroid medications into joints or tendon sheaths can be effective quickly. For non-responders, disease modifying antirheumatic drugs (DMARDs) such as sulfasalazine might be effective, helpful mainly in peripheral arthritis involving limb joints. For severe or resistant diseases, newer generation of disease-targeted drugs, known as Biologics, are now available, which are very effective in treating both the spinal and peripheral joint symptoms of spondyloarthritis. However, biologic treatment may be expensive and not without side effects, including an increased risk for serious infections and reactivation of latent tuberculosis. Therefore, you and your doctor should weigh the benefits and risks when considering treatment with biologics. For severely deformed or damaged joints, surgical correction or joint replacement might be an effective solution.



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How will delay in treatment and diagnosis affect the condition?

Delayed diagnosis & treatment leads to more severe disease activity, functional derangement and damage, including development of Bamboo Spine. AS patients with shorter disease duration are more likely to respond to biologics than patients with long-standing disease. Management of the early stages of AS may also slow down disease progression.

What can people do proactively to avoid the condition in the first place?

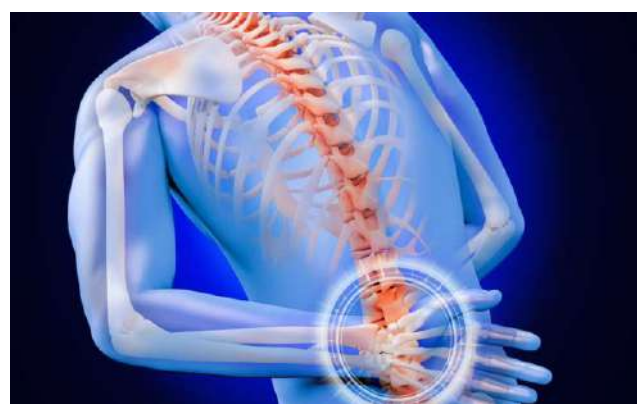
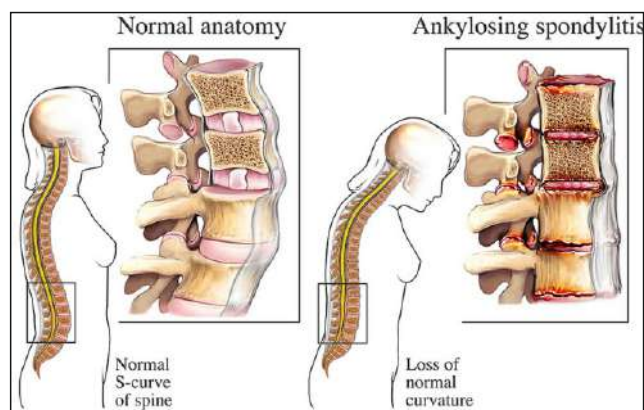
Lifestyle choices can be adapted to avoid or manage ankylosing spondylitis. It is important to stay active, as it can help to ease pain, maintain flexibility and improve your posture. Exercise, particularly stretching and weight-bearing activities, can protect against joint damage & stiffness. Low-impact activities like walking



and swimming are generally easier on joints than running, tennis, and soccer. As smoking accelerates bone demineralization and bone loss, so cessation of smoking is highly recommended.

How effective are modern drugs in helping patients cope with the condition?

Modern drugs like Biologics have revolutionized treatment of AS. They can be given by injections (Adalimumab, Infliximab, Golimumab, Etanercept, Secukinumab) or taken orally (Tofacitinib). They stop the damaging inflammation that happens with AS. Better responses were observed with earlier administration of biological drugs. They also help to mitigate osteoporosis and recovered bone mineral density, possibly reduce cardiovascular sequelae in AS patients. This next generation of treatment is improving the lives of patients with AS keeping them free of pain, disability & deformities.



Syndromic Panels in Molecular Microbiology: A New Frontier in the Diagnosis of Infectious Diseases



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Infectious diseases continue to pose significant challenges to global health, with complex and overlapping clinical presentations often making accurate diagnosis a daunting task. Before the introduction of syndromic panels, physicians had to select individual tests based on their suspicion of the most likely culprit pathogen. This approach often led to delayed diagnosis, reliance on empirical therapy, and multiple laboratory tests. Traditional culture-based methods were limited in their ability to detect slow-growing or difficult-to-culture pathogens, exacerbating the diagnostic challenges. However, with the advent of molecular syndromic panels, a revolutionary approach to infectious disease testing has emerged, offering faster and more accurate identification of pathogens responsible for similar clinical symptomatology.

Syndromic panels are particularly useful for diseases that have similar clinical presentations, such as respiratory tract infections, gastrointestinal infections, meningoencephalitis, joint infections, urinary tract infections, and sexually transmitted infections. In

these cases, it can be difficult to identify the causative pathogen based on symptoms alone. Syndromic panels can help to distinguish between different pathogens, which can lead to the initiation of appropriate treatment sooner. In addition to improving patient outcomes, syndromic panels can also help to reduce the spread of antimicrobial resistance. By identifying the causative pathogen, clinicians can select the most appropriate antibiotic treatment. However, the gold standard for determining susceptibility still relies on microbial culture, and these panels serve as a valuable augmentation in characterizing the antibiogram.

Syndromic panels for RTIs have proven invaluable in quickly distinguishing the causative agent, enabling earlier definitive therapy, reducing antibiotic overuse, and improving patient outcomes. These panels have highlighted previously overlooked pathogens like adenovirus, human metapneumovirus, parainfluenza viruses and rhinoviruses, and their use in identifying bacterial pathogens causing severe RTIs like pneumonia has been critical in managing and treating these conditions. GI infections, the second most common infectious disease worldwide, often present with similar clinical symptoms. Syndromic panels for GI have been particularly useful in identifying the diverse range of viral and bacterial pathogens responsible for gastroenteritis. Studies have shown that syndromic panel testing can reduce overall hospital expenses and optimize isolation practices.

The applications of various commercially available syndromic panels in RTIs, GI infections, meningitis, joint infections, and AMR marker detection (e.g. Biofire, QIAstat-Dx Panels) have showcased their immense potential in improving patient management and outcomes. The continued development and implementation of syndromic panels is offering hope for a more targeted and effective approach to combating infectious diseases on a global scale.

I-131 Single-Photon Emission Tomography (SPET) in Thyroid Imaging : A New Exemplar For Optimal Diagnostic Accuracy

Introduction

The thyroid gland is pivotal for controlling metabolic processes like lipid metabolism, heat regulation, skeletal growth, and heart rate and cardiac output. The diagnosis, treatment, follow-up, and prognosis of high incidence thyroid illnesses such thyroid nodule, goiter, thyroiditis, and thyroid cancer that impair normal thyroid function have all been significantly improved by recent advancements in thyroid imaging. thyroid imaging has advanced significantly since the earliest attempts to visualize the distribution of radioiodine using rectilinear scanners, moving from planar scans (originally presented on paper) to three-dimensional single-photon emission tomography (SPET).

Background

I-131 SPET-CT was first reported by Even-Sapir and colleagues in four cases of thyroid cancer included in a larger group of endocrine neoplasms [1]. Tharp and colleagues reported increased diagnostic value of SPET-CT versus planar imaging in 57 % patients, noting that the anatomical information from low-resolution (non-diagnostic) CT better differentiated equivocal neck lesions encountered on planar images [2].

Diagnostic role of I-131 SPET-CT

With the aid of SPET-CT, benign radioiodine uptake in remaining thyroid tissues can be more precisely localized and distinguished from malignant radioiodine accumulation in metastatic cervical lymph nodes or distant metastases. Qiu, Xue and colleagues reported that I-131 SPET-CT demonstrated a significantly higher sensitivity than 99mTc-methylene diphosphonate (99mTc- MDP) bone scans in illustrating thyroid cancer metastases to bone [3, 4]. Additionally, I-131 SPET-CT correctly detects cervical nodal metastases that may exist in normal lymph nodes but are difficult to detect on post-thyroidectomy neck ultrasound. In order to improve



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image interpretation and decrease the need for supplementary diagnostic CT or MRI, SPET-CT can detect metastatic disease in the neck and at distant sites [4, 5]. In a study of thyroid microcarcinoma, SPET-CT on post-therapy imaging was used to confirm a significant proportion (26/30 patients) as having regional nodal metastatic disease: the proportion of patients with N1 disease was 35 % [6]. I-131 SPET-CT imaging offers crucial prognostic data regarding the outcome of radioiodine therapy. A study reported that an involved neck nodal volume of <0.9 ml, estimated using SPET-CT, was highly likely to respond to I-131 therapy without surgical intervention [7].

SPET imaging has been used to guide aspiration biopsy, when the ultrasound guided aspiration biopsy is negative, but the lymph node aspirate is positive for thyroglobulin [8, 4].

Conclusion

SPET-CT helps to resolve diagnostic uncertainty, increasing interpretation confidence and accuracy. SPET-CT imaging has improved the localization of disease and distinguish benign and otherwise normal variants from thyroid cancer in the neck. This has significantly improved the approach to diagnosis, staging, therapy and prognostic evaluation of well-differentiated thyroid cancer.

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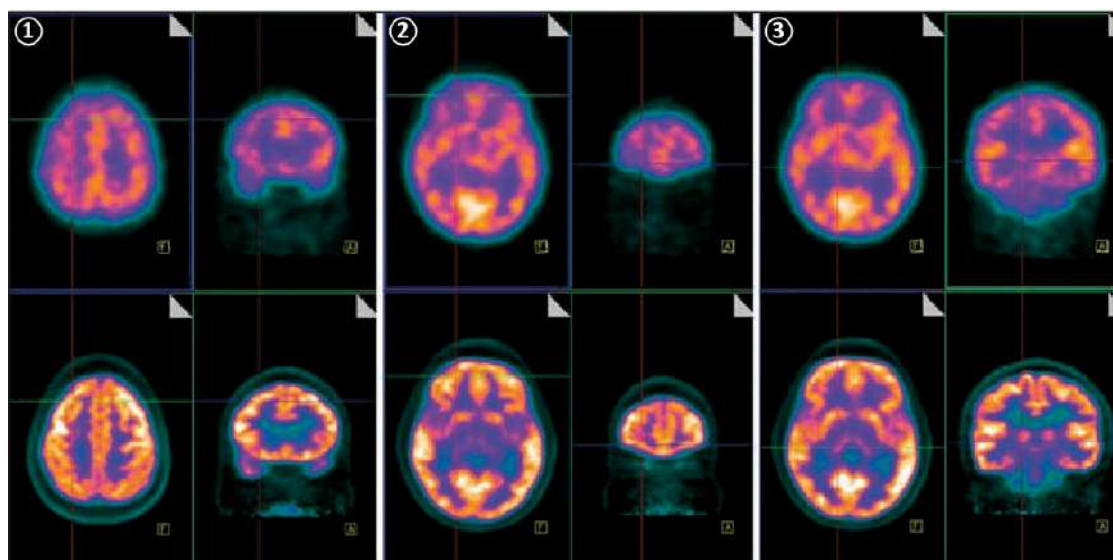


Figure 1. The upper panel is the Tc-99m ECD SPECT/CT imaging showing moderate hypoperfusion at the



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DIRECTOR GENERAL OF HEALTH SERVICES



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File No.:36-1/2006-PRC

Dated the : 16th May, 2023

Subject: Publication of Articles/Case Reports pertaining to Guinea Worm Disease in Journals- regarding.

Dear Colleagues,

National Centre for Disease Control (NCDC) is the nodal agency for planning, co-ordination, implementation of Guinea Worm Eradication Programme in the country.

WHO has certified India to be free of Guinea Worm (Dracunculiasis) transmission in the year, 2000. The disease was endemic in seven states of the country and the last case of Guinea Worm was reported in July, 1996 in Rajasthan. Since 1996, no confirmed case of Guinea Worm has been reported from India.

As part of the post elimination strategy, recommended by International Commission for Certification of Dracunculiasis Eradication & WHO, India is maintaining surveillance and conducting rumor investigation for all suspect Guinea worm cases reported or any publications in the country through NCDC.

However, it has been observed that various case reports/articles on Guinea Worm disease are been published in different journals from time to time without verification/confirmation of the diagnosis.

Any publication/case report must not have the mention of Guinea Worm in the title or text before being confirmed systematically by epidemiological linkages, morphological examination of the worm and by molecular methods as the country has been certified free of the Guinea Worm disease.

Considering the sensitivity of such matters, due diligence should be observed by all researchers/authors before publishing any articles/case reports where in particular a disease like Guinea worm which has already eradicated from the country is under question.

For this purpose, any such reported case must be brought to the notice of the concerned national nodal agency NCDC before proceeding for publication. No case report/article pertaining to Guinea worm disease should be published without confirmation of the diagnosis by NCDC.

In this regard, suitable instructions may be kindly be issued and matter be brought to the notice of all concerned researchers/authors/peer reviewers/publishers working within your domain.

With Regards,

Yours Sincerely,

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