

ROLE OF ULTRA SOUND IMAGING IN DIABETES MELLITUS

WHAT IS ULTRA SOUND IMAGING ?

Ultra sound imaging is a non invasive medical test that helps doctors to diagnose various medical conditions .it is safe and painless and uses sound waves to produce images of human body .high frequency sound waves are transmitted from the probe through the gel into the body . the transducer collects the sounds that bounce back and a computer then uses those sound waves to create an image .

A Doppler study is also a type of ultrasound examination that helps to see and evaluate blood flow through blood vessels.

Advancements in ultra sound imaging includes 3D and 4D technology ,in these techniques we get three dimensional images and three dimensional images with movement , respectively .

ULTRA SOUND AND DIABETES MELLITUS

Diabetes mellitus is a major health concern globally affecting almost every organ of the body .many of the complications are undiagnosed until they cause permanent impairment. Therefore early recognition is of utmost importance and ultra sound imaging plays a major role in that.

Gastrointestinal complications :

Non alcoholic fatty liver disease is a very common associated disease affecting the liver in diabetes mellitus . Ultrasound imaging reveals an enlarged liver with increased parenchymal echogenicity. Pancreatitis : diabetes is usually a common complication of chronic pancreatitis and affects half the people with this disease . ultrasound imaging shows atrophic glands with parenchymal and intraductal calcifications .

Urinary tract involvement in diabetes :

Diabetic nephropathy is a common complication in long standing diabetes mellitus.

Imaging helps to find out a small shrunken kidney with increased parenchymal echogenicity .

Emphysematous pyelonephritis is a condition affecting the kidney and is life threatening. It is a type of upper urinary tract infection.gas is observed within the renal parenchyma on doing an ultra sound examination.

Inflammation of the urinary bladder (cystitis) is also a common complication of diabetes mellitus . Irregular mucosal thickening can be observed by imaging

Gestational diabetes mellitus :

Ultra sound examination helps to diagnose complications of diabetes complicating pregnancy .intra uterine growth retardation ,spina bifida, polyhydramnios , missed abortion etc are some of the complications that can be detected using ultra sound imaging .

Diabetic mastopathy :

It is a rare condition affecting the breasts of patients with longstanding insulin dependant diabetes mellitus .imaging detects dense breast tissue and dense posterior acoustic shadowing .

Diabetic foot :

The role of ultra sound in this disease is limited ,however it can be used for the localization of foreign bodies and for guiding aspiration , abscesses , cysts etc .

Critical limb ischemia :

Diabetic patients are at high risk of developing critical limb ischemia.. in diabetes it typically affects the infra popliteal circulation .doppler study is helpful to diagnose the occluded segments of affected vessels as well as it is important in follow up of patients after revascularization procedures .



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