ENDOSCOPIC ULTRASOUND: WHAT IS IT AND WHEN SHOULD IT BE USED?

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Flexible endoscopy was first developed in 1911 and ultrasound later arrived in 1956. In the 1980s, these modalities were merged to form the endoscopic ultrasound (EUS). EUS uses a special endoscope with a small ultrasound probe mounted on its tip called echoendoscope. Endoscopic ultrasound works similar to abdominal ultrasound, except the source of the sound waves is inside the body. Because the sound waves don't need to pass through the skin and muscle to reach internal organs, EUS offers a better view of the GI tract and nearby organs than abdominal ultrasound. Thereby, EUS is a minimally invasive procedure that combines conventional endoscopic viewing of GI lumen with ultrasound imaging of gut wall in fine detail and surrounding structures and organs e.g mediastinum, lungs, liver, pancreas, gall bladder, biliary trees, vasculatures and lymph nodes. It is more precise in identifying small tumors and cysts that other imaging methods such as MRI and CT can miss. It has been shown to be very useful in evaluating submucosal tumors, extraluminal lesions pancreatobiliary diseases and staging of GI malignancies. There are two types of echoendoscopes for imaging: radial & linear. The radial EUS is used for diagnostic purpose. The linear echoendoscope is utilized for both diagnostic and therapeutic purpose like fine needle aspiration (FNA) or core biopsy (FNB) from GI lesions and in the treatment of a variety of clinical conditions. Therapeutic applications of EUS are rapidly expanding and facilitating, various interventions like celiac plexus block or neurolysis for pain control in pancreatic cancer and in chronic pancreatitis, drainage of pancreatic collection, necrotic tissues or pseudocyst, loculated ascites, liver abscess, pelvic abscess, EUS guided ERCP in failed conventional ERCP, TIPSS, ablation of tumors, application of chemotherapeutic or radioactive agents in different lesions and EUS guided gastroenterostomy etc. Still, EUS is very slow to be accepted within our country, it has now an established role in many arenas. It is a safe and cost-effective procedure which has a significant impact on the management of patients.

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