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Introduction; Value of Endoscopic Ultrasound-Guided Fine Needle Aspiration

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Introduction of endoscopic ultrasound (EUS) to medical practice has brought a huge change in diagnostic algorithm of many gastrointestinal diseases. Addition of EUS-guided fine needle aspiration (FNA) upgraded diagnostic power of EUS. In this focused review series, value of EUS-FNA in the diagnosis of various diseases and tips for getting the best results with EUS-FNA are described by four invited authors including myself. First, Dr. Jeong Seop Moon discussed about EUS-FNA in submucosal lesion. He also touched on basic techniques and needles of EUS-FNA in his article. Next, I focused on additional value of EUS-FNA in the staging of hollow viscus cancer to optimize the treatment strategy. World's well-known endosonographer, Dr. Robert H. Hawes kindly presented his profound thoughts on EUS-FNA in pancreatic cystic lesions. Dr. Jayapal Ramesh and Dr. Shyam Varadarajulu shared their valuable tips for getting the best results when using EUS-FNA. Nobody doubts now EUS-FNA is an indispensable procedure in gastrointestinal endoscopy. Therefore, this focused review series will provide the readers with the concentrated knowledge of "What should we know about EUS-FNA."

Key Words: Endosonography; Fine-needle biopsy; Aspiration; Technique

THE HISTORY OF EUS AND EUS-FNA DEVELOPMENT

It has been about 30 years since endoscopic ultrasound (EUS) was first introduced into clinical medicine. Combination of endoscopy with ultrasound probe was such a simple idea but it exerted notable power with advancement in technology of EUS. Now EUS is an indispensable procedure in the field of gastrointestinal endoscopy. In 2002, Michael V. Sivak Jr. wrote in his editorial that EUS represents the first great advance in diagnostic (not therapeutic) gastrointestinal (GI) endoscopy in the last 200 years.[1] However, morphologic examination with EUS is not sufficient enough for definite diagnosis.

So EUS-guided fine needle aspiration (FNA) was adopted with development of linear echoendoscope. With EUS-FNA, tissue acquisition for definite diagnosis is possible. In addition, therapeutic utilization of EUS-FNA is now performed in various fields.[2] If the chance is given, Michael V. Sivak Jr. perhaps may rewrite his statement saying, 'EUS represents the great advance in therapeutic GI endoscopy as well as in diagnostic endoscopy due to development of EUS-FNA.'

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THE LIMITATION AND PERSPECTIVE OF EUS-FNA

EUS-FNA has become an essential diagnostic tool and almost routinely performed to evaluate submucosal lesions and stage esophageal, gastric, rectal, and pancreaticobiliary malignancies in many hospitals. However the reported accuracies of EUS-FNA vary according to the locations and characteristics of the lesions. Reported sensitivities of EUS-FNA differ vastly based on performers' skill and equipments used. EUS-FNA is a difficult technique to become proficient with a prolonged learning curve.[3] Therefore, one of the drawbacks of EUS-FNA is that the results are operator-dependent and endosonographer's experience is a crucial factor. Every endosonographer who wants to improve their diagnostic yield should be diligent on getting useful technical tips from experts. In addition, to maximize clinical utilization and get better results of

EUS-FNA, one should know definite indications where EUS-FNA plays an essential role in the management of patients.

At present, EUS-FNA has become standard practice on obtaining tissues for histological diagnosis. Therapeutic procedures with linear echoendoscope and EUS-FNA needle are also widely used.[4] Further development of new echoendoscope and accessories will bring expanded application of EUS-FNA and interventional EUS in the future.[5,6]

WHAT SHOULD WE KNOW ABOUT THIS FOCUSED SERIES REVIEW OF EUS-FNA?

Currently, EUS is considered to be the most accurate and safe procedure obtaining tissue samples from gut wall and structures of its vicinity.[7] The purpose of this review series is to help the readers to get condensed knowledge of EUS-FNA from basic to advanced, especially for the commonly encountered diseases in daily practice. First, the title of Jeong Seop Moon's paper is 'EUS-FNA in submucosal lesion.' He wrote about EUS-FNA, EUS-guided Trucut biopsy, and EUS-guided fine needle biopsy in submucosal lesion together with brief mention of basic EUS-FNA techniques. Then, I focused on additional value of EUS-FNA in the staging of hollow viscus cancer for the optimal choice of the treatment options according to the 7th edition of American Joint Committee on Cancer TNM Staging System. In the third paper, Dr. Robert H. Hawes kindly shared his traditional and new ideas on EUS-FNA in pancreatic cystic lesions. In the last but not least paper, Dr. Jayapal Ramesh and Dr. Shyam Varadarajulu generously presented their tips for getting the best results with EUS-FNA.

Conflicts of Interest

The author has no financial conflicts of interest.

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