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EDITORIAL

Endoscopic ultrasonography: Challenges and opportunities in the developing world

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Abstract

Endoscopic ultrasonography (EUS) has become a vital diagnostic modality for the evaluation of mediastinal lymphadenopathy, pancreatic cysts and masses, anorectal pathology, subepithelial gastrointestinal lesions, and for the staging of many gastrointestinal and pulmonary malignancies. Establishing a EUS program in a developing country presents many challenges. Doing so in Pakistan has led to the identification of the following challenges: initial investment, ongoing costs (particularly fine needle aspiration needle costs), awareness and cytopathology. Endoscopic ultrasonography has revolutionized aspects of the practice of gastroenterology and oncology in the West. This technique is becoming increasingly available in the developing world, where it poses unique challenges to its practice. These challenges include those relating to service initiation and maintenance costs, physician awareness, and on-site cytopathology access. If these issues are anticipated and addressed in ways appropriate to local circumstances, obstacles to the institution of EUS programs can be overcome.

Key words: Endoscopic ultrasound; Gastroenterology; Cancer; Cytopathology; Developing world

Core tip: Endoscopic ultrasonography has revolutionized aspects of the practice of gastroenterology and oncology in the West. This technique is becoming increasingly available in the developing world, where it poses unique challenges to its practice. These challenges include those relating to service initiation and maintenance costs, physician awareness, and on-site cytopathology access. If these issues are anticipated and addressed in ways appropriate to local circumstances, obstacles to the institution of EUS programs can be overcome.

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ENDOSCOPIC ULTRASONOGRAPHY

Endoscopic ultrasonography (EUS) has become a vital diagnostic modality for the evaluation of mediastinal lymphadenopathy, pancreatic cysts and masses, anorectal pathology, subepithelial gastrointestinal lesions, and for the staging of many gastrointestinal and pulmonary malignancies[1]. Establishing a EUS program in a developing country presents many challenges. Doing so in Pakistan has led to the identification of the following challenges.

Initial investment

The initial investment costs for EUS are greater than that for other endoscopic procedures. A complete EUS service ideally would include a linear echoendoscope, a radial echoendoscope, miniprobes and the ultrasound unit. Such a complete setup would be prohibitively expensive. One option to lower costs would be to buy used instead of new equipment. That, of course, comes with its own

limitations. A better option is to start small and purchase the absolutely essential elements to allow therapeutic procedures and maintain the option of expanding the setup as the service grows and generates funds. Such an approach would require a processor and linear echoendoscope initially. This approach would allow starting the service with the capability to perform fine needle aspiration (FNA).

Ongoing costs

We have found that the largest proportion of the cost of an individual EUS FNA procedure is the FNA needle. Although there are some centers in the developing world that sterilize and reuse these disposable needles, there is no published data on the safety and feasibility of such a practice. From our perspective, the development of cheaper EUS FNA needles should be a priority.

Equipment service

When purchasing new equipment to establish a EUS program, it is vitally important to ensure that one also obtains a good and reliable service contract. We encountered a problem when our EUS processor developed a problem and had to be sent to Singapore. The repair process took more than nine months. Any momentum our program had built by then was lost in those ensuing nine months.

Awareness

The introduction of new procedural techniques requires education of existing practitioners as to its indications and uses. In particular, oncologists, gastroenterologists, pulmonologists, surgeons and infections disease specialists, as the major referring specialities for EUS procedures, need to be taught about endosonography and its potential relevance to their practices. Some resistance may be inevitable but once successful cases are demonstrated, acceptance can be anticipated. This teaching can take the form of CME sessions, seminars and grand rounds lectures.

Cytopathology

A singular important aspect of endosonography is the ability to do FNA of lesions. Specimens obtained by EUS FNA need to be examined by an experienced cytopathologist to assess sample adequacy as well as cytological diagnosis. Studies have shown that optimal results of EUS FNA are obtained when the cytopathologist is present in the EUS procedure room and able to assess the samples as they are obtained[2-4]. We have had difficulty in obtaining support from our cytopathologist in being in the procedure room for real-time sample analysis.

Endoscopic ultrasonography has revolutionized aspects of the practice of gastroenterology and oncology in the West. This technique is becoming increasingly available in the developing world, where it poses unique challenges to its practice. These challenges include those relating to service initiation and maintenance costs, physician awareness, and on-site cytopathology access. If these issues are anticipated and addressed in ways appropriate to local circumstances, obstacles to the institution of EUS programs can be overcome.

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