3.1 Preparation, Sedation, and Insertion

Essentially the premedication for EUS is the same as for conventional endoscopy (EGD, TCS etc.). Standard EUS was performed on an outpatient basis, with the patient under conscious sedation. In our institute, each patient was sedated with an intravenous injection of flunitrazepam (0.2–0.4 mg) and pethidine (35 mg). The insertion of the echoendoscope is in the same way as conventional endoscopy, i.e. under forward-viewing endoscopic image guidance (Fig. 3.1) [1].

3.2 Basic Scanning Technique

For EUS, a special condition is required, i.e. a sonolucent material must be between the scanner and the target lesion, and usually de-aerated water is employed.

Three kinds of scanning techniques are used in EUS [2] (Fig. 3.2).

3.2.1 The Balloon-Contact Method

This method is performed by filling the balloon at the tip of the echoendoscope with de-aerated water and contacting the balloon against the GI tract wall to examine the esophagus and pancreaticobiliary system. The balloon is usually inflated by about 1–7 mL de-aerated water.

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3.2.2 The Water-Filling Method

This method used for GI tract lesions is the water-filling method in which the de-aerated water is infused into the GI tract through the working channel of the echoendoscope until the GI tract lumen is filled and extended by de-aerated water. The volume of de-aerated water infused depends on each organ, usually about 100–500 mL. This method is useful to evaluate the layered structure of the GI tract wall, and is usually used for GI tract cancer T staging and diagnosis of submucosal tumor, etc.