EUS-guided vascular therapy, especially for gastric varices

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One of the endoscopic therapies for gastric varices involves direct injection of a cyanoacrylate agent (as the tissue adhesive or glue) under endoscopic guidance. This is a highly effective approach, particularly for emergency hemostasis. However, this technique may lead to efflux of glue from varix via the blood drainage route (mostly via gastro-renal shunting) into the systemic circulation and can cause pulmonary embolism. Recently, EUS-guided coiling therapy for gastric varices was developed. The several report showed the EUS-guided deployment of coils in the gastric varices and perforating feeding vein is more effective and safe than cyanoacrylate injection. However, if coil placement alone is used, only the local blood flow in the varix is obliterated and the blood supply route to varix remains open. Therefore, recurrence of varices after coil placement is highly likely. Therefore, we invented the new technique combined coiling and sclerosant (ethanolamine oleate) injection using interventional EUS to obliterate not only gastric varices but also feeding veins. The methods of EUS-guided coil deployment with sclerotherapy as follows; at first, gastric varices were punctured using 19G EUS-FNA needle without stylet. After confirming back-flow of blood, contrast medium was injected into the varices. Subsequently, a 0.035-inch coil (diameter that is at least 20% larger than the pre-procedural varix diameter determined by EUS) was inserted into the needle lumen and pushed a coil using stylet or 0.035-inch guide wire. After the first coil was deployed in varix, the contrast medium was consecutively injected into varix to confirm whether deployed coils blocked off variceal blood flow. If the varicealography on fluoroscopy was not obtained (it means remaining blood flow in the varix which was deployed the coil), additional coils were deployed until obtaining of apparent varicealography including feeding veins. When the apparent varicealography was obtained (it means that variceal blood flow was blocked by coils and stagnated), sclerosant (ethanolamine oleate) mixed with contrast medium was injected into the varix including feeders. Up until now, we performed this technique for 6 patients. Technical success rate was 100%, and there was no major/minor complication. In conclusion, EUS-guided therapy for gastric varices using coils and sclerosant is expected as a new endoscopic treatment instead of cyanoacrylate injection therapy.