

A single center experience of EUS guided fine needle aspiration cytology (FNAC) in pancreatic mass lesions

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Introduction: Over a 4 year period (2006 – 10), 110 patients underwent endosonography (EUS) guided FNAC for suspected / confirmed pancreatic mass lesions on imaging.

Materials and Methods:

EUS was performed using Fujinon SU7000 EUS system and EG530UT linear echoendoscope (Fujifilm Inc., Japan). After locating the lesion by EUS, FNA was obtained using a 22G Echotip-Ultra needle (Cook, USA). Onsite pathologist was available in 45 patients, 41% (Group 2) whereas was absent in the remaining 65, 59% (Group 1).

Observations & results: Overall accuracy in our series was 89%. Cytopathology in 110 samples revealed 35 (31%) adenocarcinoma, 7 (6%) chronic pancreatitis, 7 (6%) pancreatic TB or tubercular peripancreatic lymph nodes, 4 (4%) neuroendocrine tumors, 3 (3%) solid pseudopapillary epithelial neoplasm (SPEN), 3 (3%) mucinous cystadenomas and one patient each of papillary neoplasm and lymphoma. Cytology was inconclusive in 12 (11%) patients. Adequate samples but not representing any pathology were obtained in 37 (34%) patients. Inconclusive samples were significantly reduced in Group 2 vs. Group 1 – 4/45 (9%) vs. 17/65 (26%), $p < 0.05$.

Conclusions: Adenocarcinoma was seen only in 31% patients. Benign conditions were seen in 14%. Surgery could be avoided in 14% patients. Presence of onsite pathologist significantly improved yield of EUS guided FNA.

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Endoluminal compression clip: full-thickness resection of the mesenteric bowel wall in a porcine model

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Background: Performing a full-thickness intestinal wall resection of a sessile polyp located on the mesenteric side with a compression clip may lead to compression of mesenteric vessels.

The application of such a clip may therefore cause a compromised blood supply in the particular bowel segment, leading to perforation.

Objective: To evaluate the performance of a newly developed, nitinol compression clip, called the NiTi clamp, for full-thickness resection of the bowel wall, while the clip is deliberately deployed endoluminally on the mesenteric side.

Design: Prospective animal study. Multinational, multidisciplinary; gastroenterology and general surgery, research cooperation.

Setting: Animal research laboratory.

Intervention: Six pigs were operated upon and endoscopically evaluated and then killed after 3 weeks. Linear compression closure clips based on nitinol springs were used. Three longitudinal enterotomies were performed: in the cecum, spiral colon, and proximal rectum.

Four clips were deployed in each animal.

Main Outcome Measurements: A total of 23 clips were deployed. The average expulsion day was 9 days.

Results: All but 3 clips were normally expelled. One pig developed bowel ischemia due to intussusception. In endoscopic procedures, no signs of significant segmental mucosal ischemia were found. The macroscopic appearance of the compression closure lines was thin and delicate, but epithelialization was significantly delayed at 5 sites.

Limitation: Differences between porcine and human colorectal anatomy.

Conclusion: Full-thickness clamping of the bowel with the NiTi clamp, including the local mesenteric vasculature, does not significantly impair local healing of the clamp site and gives

hope to further development of novel full-thickness endoscopic resection technologies. (Gastrointest Endosc 2009;70:1146-57.)

Simulation of a colorectal polypoid lesion- a pilot porcine model

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Background: Large sessile polyps almost always contain villous tissue with appreciable premalignant potential and tend to recur locally after colonoscopic resection. Developing new endoscopic techniques for the removal of polyps requires a large animal model of colorectal polypoid lesions. So far, no appropriate large animal model of a colorectal or other

GI polyp has been described in the English literature.

Objective: Our purpose was to develop a large animal model simulating large, perfused and

viable, sessile colorectal polypoid lesions, with distinct easily detectable histologic features.

Setting: An animal laboratory.

Interventions: Two simulated rectal polyps, using 2 different techniques, were created in each of 10 animals. The polyps were simulated by ovarian tissue that was introduced either

intraluminally through the rectal wall or into a dissected submucosal space in the rectal wall.

In 2 animals the created polyps were endoscopically resected.

Results: All submucosal lesions were sessile-like polypoid lesions because the base of the

polyp was the widest diameter of the lesion. All transmural polypoid lesions had short and

thick pedicles. Resection by snaring and cutting was demonstrated to be feasible.

Main Outcome Measurements: The mean measurements of the submucosal-simulated polyps were as follow: 1.74 cm (+/-0.32) * 2.07 cm (+/-0.42) * 1.51 cm (+/-0.27). The mean

measurements of the transmural-simulated polyps were significantly larger: 2.55 cm (+/-0.52) * 3.57 cm (+/-1.1) * 2.7 cm (+/-0.64).

Limitation: This model does not simulate a real intestinal neoplasia.

Conclusion: Either method, the submucosal or the transmural, could be helpful in the research and development efforts of surgical and endoscopic treatments of intestinal polyps.

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Publications-

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