

Abstract

Background and Aims: This study aimed to examine the diagnostic ability of endoscopic ultrasonography (EUS) for major vascular invasion in pancreatic cancer and to evaluate the relationship between EUS findings and pathological distance.

Methods: In total, 57 consecutive patients who underwent EUS for pancreatic cancer before surgery were retrospectively reviewed. EUS image findings were divided into four types according to the relationship between the tumor and major vessel (types 1 and 2: invasion, types 3 and 4: non-invasion). We also compared the EUS findings and pathologically measured distances between the tumors and evaluated vessels.

Results: The sensitivity, specificity, and accuracy of EUS diagnosis for vascular invasion were 89%, 92%, and 91%, respectively, in the veins and 83%, 94%, and 93%, respectively, in the arteries. The pathologically evaluated distances of cases with type 2 EUS findings were significantly shorter than those of cases with type 3 EUS findings in both the major veins (median [IQR],

96 [0–742] μm vs. 2833 [1076–5694] μm , $P=0.012$) and arteries (623 [0–854] μm vs. 3097 [1396–6000] μm , $P=0.0061$). All cases with a distance of ≥ 1000 μm between the tumors and main vessels were correctly diagnosed.

Conclusions: Tumors with a distance ≥ 1000 μm from the main vessels were correctly diagnosed by EUS.