

## Background

- Periapillary diverticula can make ERCP challenging due to unusual papilla position and distorted anatomy.
- Pre-ERCP CT or MRI, may help define anatomy, localize pathology, and identify periapillary diverticula.
- It is unclear whether technological advancements have led to improved radiographic sensitivity of periapillary diverticula or if adequate documentation is performed.
- Our aim was to determine the sensitivity of imaging in identifying duodenal diverticula as seen during ERCP.

## Methods

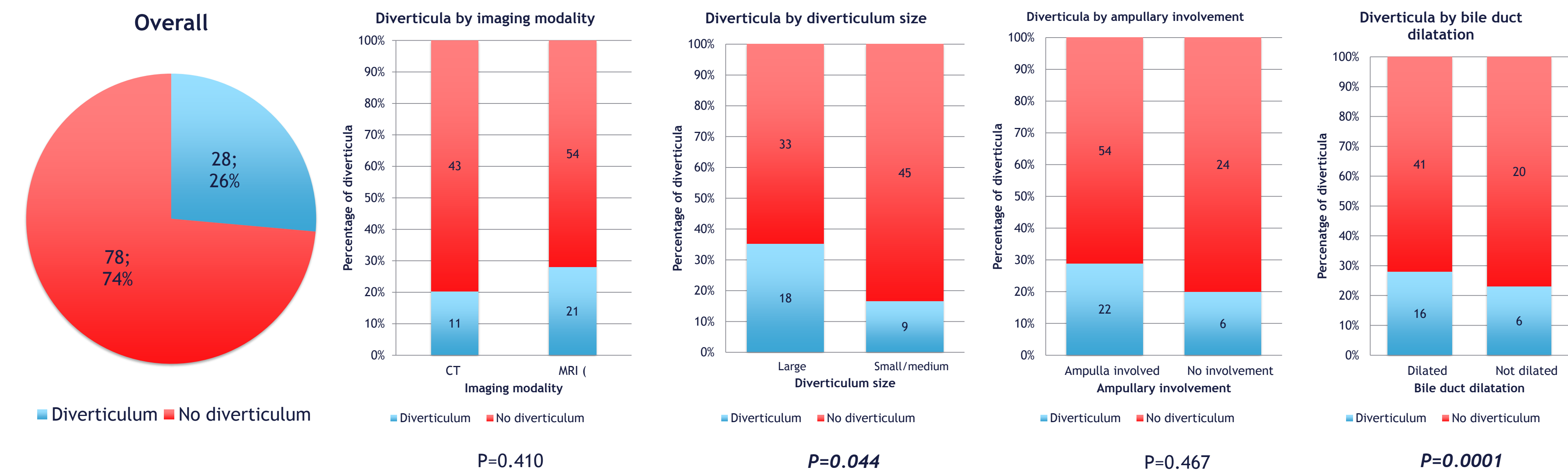
- The design of this study was a retrospective study of 106 patients noted to have periapillary diverticula during ERCP between June 2014 and November 2017 at a single, large-volume academic center.
- The presence of duodenal diverticula noted on CT or MRI prior to ERCP was recorded. Age, gender, and diverticulum characteristics including number, size, and ampullary involvement were recorded. Successful cannulation was noted.
- The association between diverticula detection on imaging with diverticulum size, ampullary involvement, and biliary dilatation was determined using a Fisher's exact test.

## Results

**Table 1: Patient characteristics, diverticulum qualities, procedural details, indications for ERCP (n=87)**

Patient characteristics	n (%)
Mean age (years)	74.8 ±11.6
Gender (male)	57 (54.1)
Diverticulum qualities	n (%)
Ampullary involvement	76 (70.0)
Single diverticulum	96 (88.1)
Large diverticulum	51 (48.1)
Procedural details	n (%)
Successful cannulation	98 (89.9)
Indication for ERCP	n (%)
Choledocholithiasis	31 (31.3)
Cholangitis	12 (12.1)
Unspecified biliary obstruction	12 (12.1)
Hyperbilirubinemia or jaundice	18 (18.2)
Bile leak	6 (6.1)
Other	9 (9.1)

**Figure 2: Differences in diverticula detection on cross-sectional imaging by imaging modality, diverticulum size, ampullary involvement, or bile duct dilatation**



## Conclusion

- The sensitivity of cross-sectional imaging for detecting duodenal diverticula among patients undergoing ERCP remains low despite technological advancements in radiological imaging.
- There was a statistically significant difference in sensitivity of diverticulum detection based upon diverticulum size and biliary dilatation, but not by ampullary involvement.
- This study highlights the potential to improve detection of periapillary diverticula by radiologists, which may impact pre-procedural planning and clinical outcomes.