samples and was assumed to be sloughed off due to treatment. Full-thickness necrosis of the bile duct wall was observed. C, H&E staining of bile duct specimen 7 days after endoscopy-guided IRE (Animal No.5, 10x magnification). *Line with arrows* demarcates the extents of treatment effects in the bile duct wall. There is a focally extensive area of ulceration, characterized by necrosis and loss of the mucosa *(arrow)*. This region was associated with superficial neutrophilic exudate covered by eosinophilic necrotic debris. The ful- thickness of the bile duct wall under the ulcerated area demonstrated edema (asterisk), and fibrosis. D, High magnification (100x) image of the region exhibiting signs of fibrosis in the treated bile duct wall.

Supplementary figure 1.

CT images (A, B) 24 hours and (C, D) 7days after endoscopy-guided IRE (A, C: original image, B, D: 2.5x magnification of inset). On both 24 hours and 7 days after treatment, intact common bile ducts can be seen (*arrows* in C and D) without any evidence of perforation, dilation or stenosis.









Acronyms

- IRE Irreversible Electroporation
- CBD Common Bile Duct
- IACUC Institutional Animal Care and Use Committee
- CT Computed Aided Tomography
- H&E Hematoxylin and Eosin
- RFA Radiofrequency Ablation