**Supplementary Table 1:** Characteristics of patients undergoing EUS-CDS versus ERCP

| Variable                  | EUS-CDS (N=44) | ERCP (N=44) | p-values |
|---------------------------|----------------|-------------|----------|
| Age, median [IQR]         | 71 [64-76]     | 70 [63-76]  | 0.8      |
| Male, n (%)               | 25 (57%)       | 26 (59%)    | 0.8      |
| Primary Disease           |                |             | 0.1      |
| Pancreatic cancer         | 40 (91%)       | 44 (100%)   |          |
| Cholangiocarcinoma        | 2 (4.5%)       | 0           |          |
| Duodenal cancer           | 2 (4.5%)       | 0           |          |
| Technical Success, n (%)  | 43 (98%)       | 44 (100%)   | 0.3      |

ERCP: Endoscopic Retrograde Cholangiopancreatography; EUS-CDS: EUS-guided CholedochoDuodenostomy; IQR: Interquartile Range

**Supplementary Table 2:** Characteristics of patients undergoing EUS-GE versus Enteral Stenting

| Variable                  | EUS-GE (N=27) | Enteral Stenting (N=27) | p-values |
|---------------------------|---------------|-------------------------|----------|
| Age, median [IQR]         | 60 [55-70]    | 67 [61-76]              | 0.03     |
| Male, n (%)               | 9 (33%)       | 18 (67%)                | 0.02     |
| Primary Disease           |               |                         | 0.4      |
| Pancreatic cancer         | 25 (93%)      | 25 (93%)                |          |
| Cholangiocarcinoma        | 1 (4%)        | 0                       |          |
| Other cancers             | 1 (4%)        | 2 (7%)                  |          |
| Technical Success, n (%)  | 26 (97%)      | 27 (100%)               | 0.3      |

EUS-GE: EUS-guided GastroEnterostomy; IQR: Interquartile Range

**Supplementary Table 3:** Radiologic Exposure according to intraprocedural troubles

| Variable                        | Kerma Area Product (Gy·cm²) | p-values | Intraprocedural Troubles |
|---------------------------------|-----------------------------|----------|--------------------------|
|                                 | Trouble-free procedure      | Intraprocedural Troubles |                       |
| EUS–CholedochoDuodenostomy      | 0 [0-0] (N=33)              | 26.62 [0-58.05] (N=4) | p=0.02 Middeployments (3/4) / Over-the-wire placement (1/4) |
| ERCP with SEMS                  | 19.75 [14.37-30.11] (N=7)  | 34.35 [23.82-59.77] (N=20) | p=0.045 Difficult cannulation / Double guidewire / Pre-cut (20/20) |
| EUS–FCD-LAMS                    | (N=1)                       | (N=0)    | *                        |
| EUS–Gallbladder Drainage        | (N=5)                       | (N=0)    | *                        |
| EUS–FCD-DPPS                    | (N=1)                       | (N=0)    | *                        |
| EUS–GastroEnterostomy           | 34.84 [27.98-74.69] (N=12)  | 66.72 [21.03-187.09] (N=6) | p=0.6 Misdeployments (3/6) / Difficult OIT placement (2/6) / Over-the-wire LAMS placement (1/6) |
| Enteral Stent                   | 27.26 [18.64-40.38] (N=23)  | 46.61 [35.83-64.25] (N=3) | p=0.1 Intraprocedural dislocation (3/3) |
| EUS–Hepaticogastrostomy         | 81.24 [72.32-90.65] (N=5)   | 89.33 [35.1-256.21] (N=4) | p=1 Additional stent placement (2/4) / Misdeployments (1/4) / Multiple punctures (1/4) |

*Not enough data for comparison; EUS: Endoscopic Ultrasound; FCD: Fluid Collection Drainage; DPPS: Double-pigtail plastic stent; LAMS: Lumen Apposing Metal Stent; OIT: orojejunal tube.