

Percutaneous image guided drainage of the main pancreatic duct – what for and how

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Purpose To present the rationale and technique of percutaneous image-guided pancreatic duct (PD) drainage

Materials&Methods - 76 patients (pancreatic tumor – 44, pancreatitis – 27, papilla of Vater tumor – 3, pancreatic head metastasis – 1, pancreatic fistula – 1) underwent PD percutaneous image-guided drainage. In 75 of them the indication was PD obstruction related clinical symptoms (pancreatitis, recently revealed or rapidly advancing diabetes); non-dilated PD was drained in only pancreatic fistula case. PD drainage was performed under combined image-guidance - US&fluoroscopy (47) or CT&fluoroscopy (29 cases). Puncture was performed by 18 G (39 cases), 22 G needle (16 cases) or co-axially used 18 and 22, 17 and 18 or 14.5 and 18 G needles (21 cases), allowing to conduct the guidewire in PD. Finally 6 to 8.5 Fr diameter locking-loop drainage catheter was placed under the real-time fluoroscopy guidance over the wire.



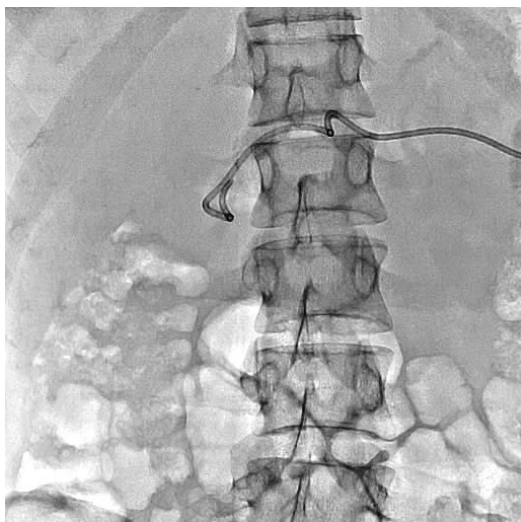
Im. 1 Transverse US with color – dilated PD is depicted



Im.2 PD puncture aiming by using electromagnetic navigation



Im. 3 Puncture needle tip is located in PD



Im.4 7 Fr diameter locking-loop drainage catheter positioned in PD body segment



Im. 5 Contrast injection shows PD dilation due to downstream segment stricture

Results Drainage was successful in 74(97.3%) cases, including non-dilated PD in post-biopsy pancreatic fistula case. Clinical improvement was documented in all successful drainage cases (elimination or alleviation of pancreatitis, dramatic improvement of glycemic control in recently revealed/advanced diabetes cases).Pancreatic fluid discharge varied between 300 -900 ml/day.

Conclusion The percutaneous PD drainage appears to be a safe and very effective procedure and should be considered in symptomatic patients with obstructed PD, especially in cases when endoscopic retrograde cannulation fails or impracticable. Mature drainage track might be used for further low-invasive treatment procedures