Traumatic Pancreas Transection: CT Findings
—Case Report—

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Traumatic injury to the pancreas is uncommon, and pancreatic injury is detected only in 1-2% of patients with blunt abdominal trauma (1). However, the mortality from pancreatic injury is nearly 20% and delayed diagnosis contributes to the high mortality (2-3). Computed tomography (CT) is the most effective imaging modality for pancreas transection. In this case report, we describe a series of three patients with traumatic pancreatic transection who were examined by abdominal CT prior to laparotomy.

Case 1

Thirty-two year old male patient complained severe abdominal and flank pain after blunt trauma (street fight) on right flank area. On physical examination, tenderness and rebound tenderness was detected on right flank. Serum amylase level was 932 units.

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Case 2

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Fig. 1. Case 1: Thirty-two year old female patient: CT was performed in 72 hours after blunt abdominal trauma (street fight).
a. On pre-contrast CT, transection is seen at the level of the superior mesenteric artery origin (arrow). Panceras body and tail shows low density. High density fluid collection suggesting hemorrhage (asterisk) is seen in the lesser sac and lower density fluid collection is noted in left anterior pararenal space. Left anterior perirenal fascial thickening is also seen.
b. On post-contrast CT, hemorrhage component (asterisk) is noted as relatively lower density compared with pre-contrast CT. Thickened left renal fascia (arrow heads) is irregularly enhanced.

Fig. 2. Case 2: Thirty-two year old male patient: CT was done within 24 hours after blunt abdominal injury (street fight).
On post-contrast CT, low density vertical fracture line (arrow) is well visualized at its neck portion, opposite to the vertebra, just left to the portal confluence. No significant fluid collection is detected.

units. Two days after emergent computed tomography distal pancreatectomy and splenectomy was done. Pancreas was transected above the superior mesenteric artery and was swollen.

Case 3

Thirty-four year old male patient visited emergen-
cy room complaining severe abdominal pain developed after traffic accident. Physical examination findings were same as above two patients. One day later abdominal CT was performed. After then distal pancreatectomy with splenectomy was done. On operation pancreas transection at neck portion was confirmed. Postoperatively abscess and hemorrhage was developed. Percutaneous needle aspiration was tried but effective drainage was impossible because of thick old blood clots. On second operation performed in twentyfour days after previous operation, exploration and abscess drainage was done.

Discussion

Pancreatic injuries are relatively uncommon, are detected only in 1-2% of patients with blunt abdominal trauma (1), and account for only 3% to 12% of all abdominal injuries (3). However, the mortality from pancreatic injury is nearly up to 20% (2,3). In our cases two had blunt abdominal injury due to street fight and one had traffic accident. They were all young age. There was no mortality case.

Previously, the diagnosis of pancreas transection has been made at the time of surgery, but even then the transection can be overlooked (4). The clinical
Fig. 3. Case 3: Thirty-four year old male patient: CT was performed within 24 hours after traffic accident.
a.b.c. On post-contrast CT clear vertical line (arrow) separating pancreatic head and neck of lower density from body and tail of relatively high density is detected. Low density fluid collection is well visualized in anterior pararenal space and adjacent to the mesenteric vessels (long arrows). Left anterior perirenal fascial thickening (arrow heads) is also seen.

CT findings of pancreatic injury are clear fracture line acrossing the neck of the pancreas (just to the left of the mesenteric vessel), retroperitoneal fluid collection, edema around the origin of the mesenteric artery and/or edema in the peripancreatic fat, or thickening of the left anterior perirenal fascia. Especially thickening of the left anterior perirenal fascia is known to be the early warning sign when the fracture line is not definite (1-4). In our cases, in addition to the fracture lines, left anterior perirenal
fascia thickening, fluid collection in lesser sac and anterior pararenal space, edema and hematoma adjacent to mesenteric vessel, focal low density of pancreas, and enlargement were detected.

Complication of the pancreatic fracture are pseudocyst, hemorrhage, and abscess formation. In our cases one patient suffered from abscess formation postoperatively.

REFERENCES