fore, it would be informative to perform PK-analysis of the CSF during an episode of dysarthria but both patients declined consent to a lumbar puncture. In contradiction with this hypothesis is the finding that no CNS-toxicity is reported in over 140 irinotecan-treated patients with brain tumours, despite the presence of a clearly disrupted blood-brain barrier in these patients [11–13].

Cytotoxic oedema is unlikely to play an important role in irinotecan induced CNS toxicity since normal diffusion-weighted MR images of the brain were found in one of our patients while experiencing dysarthria. It is also unlikely that irinotecan-mediated CNS toxicity occurs in the context of ACS. Dysarthria can occur in patients without ACS, while administration of atropine does not appear to prevent its (re-)occurrence whereas it effectively deals with ACS.

Of importance, pre-clinical toxicology never revealed any CNS-toxicity (Pfizer, data on file) rendering it difficult if not impossible to further study this side effect in animal models.

In conclusion, the exact cause of irinotecan-induced CNS toxicity remains unravelled and plasma pharmacokinetics also do not provide an explanation. Therefore, a specific treatment cannot be recommended. Most importantly, since in all cases CNS toxicity was fully reversible, was not exaggerated by rechallenge with irinotecan, and can even decline in severity at repeated exposure; CNS toxicity is not a reason to discontinue irinotecan treatment despite its sometimes impressive and threatening appearance.

References

[1] Fuchs C, Mitchell EP, Hoff PM. Irinotecan in the treatment of colorectal cancer. Cancer Treat Rev 2006;32:491–503.

[2] De Jong FA, Scott-Horton TJ, Kroetz DL, McLeod HL, Friberg LE, Mathijssen RH, et al. Irinotecan-induced diarrhea: Functional significance of the polymorphic ABCC2 transporter protein. Clin Pharmacol Ther 2007; 81:42–9.

[3] Van der Bol JM, Mathijssen RHJ, Loos WJ, Friberg LE, van Schaik RHN, de Jonge MJA, et al. Cigarette smoking and irinotecan treatment: Pharmacokinetic interaction and effects on neutropenia. J Clin Oncol 2007;25:2719–26.

[4] Sevilla Garcia I, Rueda A, Alba E. Irinotecan-induced central nervous system toxicity: A case report. J Natl Cancer Inst 1999;91:647.

[5] Baz DV, Bofill JS, Nogueira JAM. Irinotecan-induced dysarthria. J Natl Cancer Inst 2001;93:1419–20.

[6] Ceccaldi B, Kara F, Mommeja-Marin H, Bègue M, Saint Blancard P, Le Marec E, et al. Dysarthrie lors de l'administration d'irinotecan. Rev Med Interne 2002;23:950–1.

[7] De Marco S, Squilloni E, Vigna L, Bertagnolio MF, Sternberg CN. Irinotecan chemotherapy associated with transient dysarthria and aphasia. Ann Oncol 2004;15: 1147–8.

[8] Hamberg P, Donders RCJM, Ten Bokkel Huinink D. Central nervous system toxicity induced by irinotecan. J Natl Cancer Inst 2006;98:219.

[9] Blaney SM, Takimoto C, Murry DJ, Kuttesch N, McCully C, Cole DE, et al. Plasma and cerebrospinal fluid pharmacokinetics of 9-aminocamptothecin (9-AC), irinotecan (CPT-11), and SN-38 in nonhuman primates. Cancer Chemother Pharmacol 1998;41:464–8.

[10] Noble CO, Krauze MT, Drummond DC, Yamashita Y, Saito R, Berger MS, et al. Novel nanoliposomal CPT-11 infused by convection-enhanced delivery in intracranial tumors: Pharmacology and efficacy. Cancer Res 2006;66:2801–6.

[11] Chamberlain MC. Salvage chemotherapy with CPT-11 for recurrent glioblastoma multiforme. J Neurooncol 2002;56: 183–8.

[12] Cloughesy TF, Filka E, Kuhn J, Nelson G, Kabbinavar F, Friedman H, et al. Two studies evaluating irinotecan treatment for recurrent malignant glioma using an every-3-week regimen. Cancer 2003;97:2381–6.

[13] Raymond E, Fabbro M, Boige V, Rixe O, Frenay M, Vassal G, et al. Multicentre phase II study and pharmacokinetic analysis of irinotecan in chemotherapy-naïve patients with glioblastoma. Ann Oncol 2003;14:603–14.

Pancreatic ascites due to rupture of a mucinous cystic neoplasm

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To the Editor

Pancreatic ascites due to an internal pancreatic fistula is an uncommon entity, and the most common causes are alcohol-dependent chronic pancreatitis, pancreatic invasive procedures, and open or blunt abdominal trauma with duct rupture [1]. Here we report an unusual case of pancreatic ascites caused by the spontaneous rupture of a mucinous cystic neoplasm (MCN) of the pancreas.

Case report

A 42-year-old woman experienced vague abdominal discomfort and increasing abdominal distention through one year. Ultrasound before referral to our department showed massive ascites, and a large cystic process in the body of the pancreas. A pancreatic malignancy was suspected, but an ultrasound-guided aspiration cytology was not diagnostic. Ascitic fluid contained 872 U/L of pancreatic amylase. The plasma amylase was 102 U/L (ref. value <120)

In the further diagnostic work-up, a CT scanning confirmed massive ascites, and a large multicystic process in the pancreatic body. The tumour grew in close proximity to the mesenteric root, the renal vein and the transverse colon, and it was adherent to the splenic vein (Figure 1). Laparoscopy with laparoscopic ultrasound showed chronic peritonitis, but no peritoneal carcinomatosis. Four liters of ascites was collected. Ascites cytology was negative. The liver was normal macroscopically and on ultrasound scanning. The cystic tumour could not be directly visualised (due to adhesions), but the laparoscopic ultrasound gave suspicion of a locally advanced cystadenocarcinoma with overgrowth on the splenic vein and peripancreatic soft-tissue. It was decided to attempt resection. In the laparotomy, a large multiloculated, cystic tumour was found in the pancreatic body. The tumour penetrated the transverse mesocolon close to the middle colic vessels. In the infracolic space, one of the cysts was ruptured (Figure 2). Further peripancreatic dissection revealed, that the tumour was adherent to the splenic vein, and it grew in close proximity to the mesenteric root, the renal vein, and the middle colic vessels. As a malignant tumour could not be excluded, a radical resection of the pancreatic tumour was done en-bloc with the mesocolic tissue (the spleen and the transverse colon was resected due to devascularisation). The operative specimen is shown in Figure 2. The tumour contained scattered microcalcifications and a mucinproducing epithelium with mild to moderate atypia. The histopathology was consistent with a mucinous cystic neoplasm of borderline pathology, and the stromal cells expressed estrogen and progesteron receptors (figure not shown). The postoperative cause was uneventful. On follow-up 19 months after surgery, the patient was well-being, and an ultrasound showed no signs of ascites or tumour recurrence.

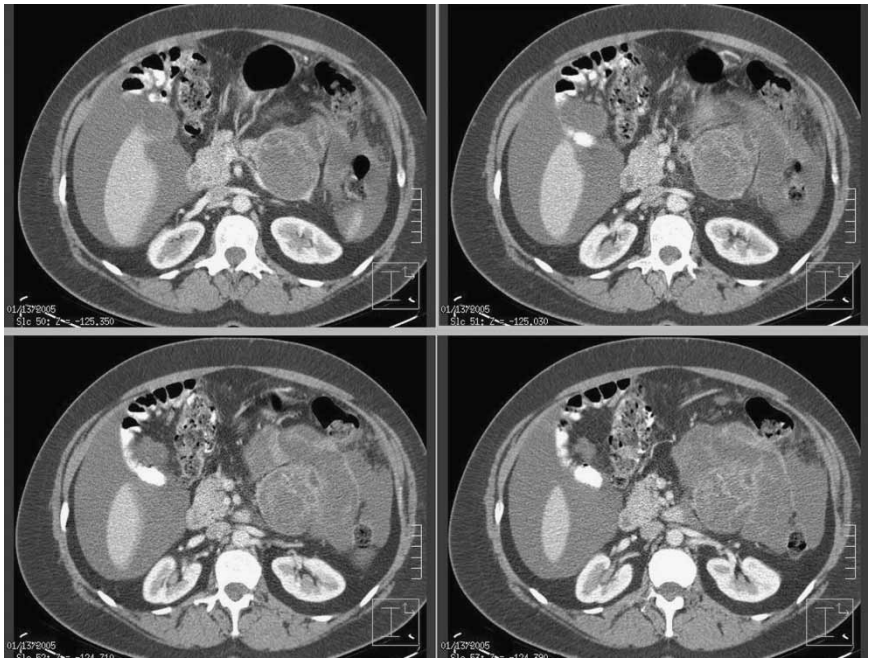

Figure 1. A CT scanning showed a large multiloculated process in the pancreatic body. The tumour was adherent to and compressed the splenic vein, and further grew in close proximity to the mesenteric root, the renal vein and the transverse colon. The tumour was free from the superior mesenteric vessels, and no metastasis to lymph glands, liver or other distant organs could be detected.

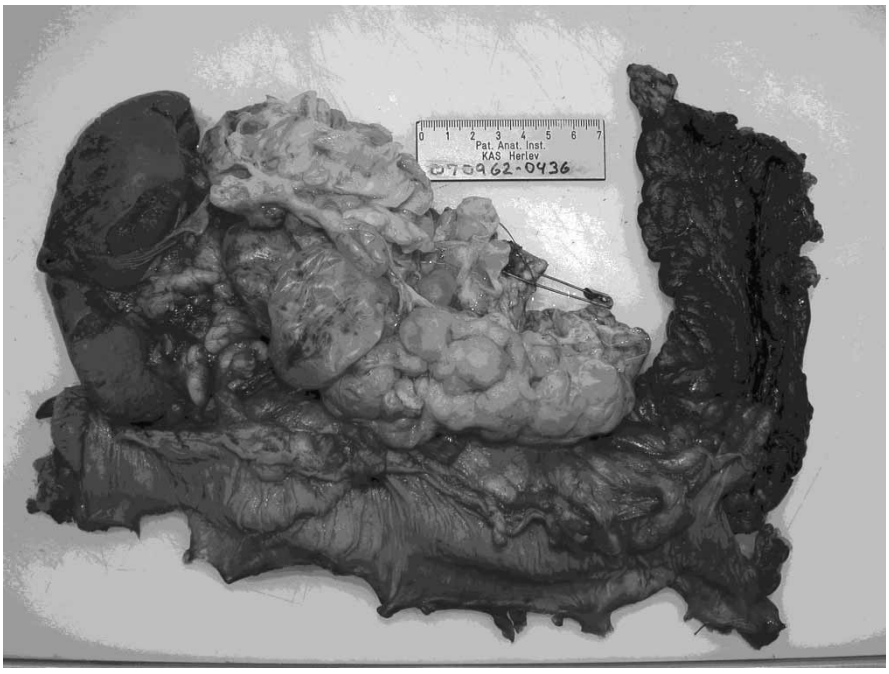

Figure 2. Macrophoto of the operative specimen with the transverse colon (on top), and the spleen (to the right). The tumour, which measured 20 × 11 × 10 cm, originated from the body of the pancreas, and penetrated through the transverse mesocolon. Note the ruptured pancreatic cyst (marked by safety pin) in the infracolic space.

Discussion

The symptoms of MCN develop slowly, and non-specific gastrointestinal complaints or vague abdominal pain/discomfort are common. Jaundice, pain radiating to the back, weight-loss and constitutional symptoms like are infrequent, and may signal invasive cystadenocarcinoma. Our patient initially had vague upper abdominal pain, and gradually developed massive ascites. The pre- and intraoperative findings made us suspect a malignant MCN, and a radical resection was attempted. However, the histopathology revealed a MCN of borderline pathology, which contained mucin-containing cysts surrounded by an ovarian-type stroma. The stroma expressed estrogen and progesteron receptors, which is typical of MCN (figure not shown) [2–5]. In the laparotomy we found the perforated cyst, which was obviously the cause of the pancreatic ascites (Figure 2). Perforated MCN is an exceptional cause of pancreatic ascites, and we have been unable to find a similar case in the literature. The increased amylase in the ascites was incompletely understood before surgery. The amylase concentration was 872 U/L, which is considerably less than the several thousand units per litre usually associated with a ruptured pancreatic duct or a leaking pseudocyst [1]. The low amylase level is probably due to the lack of communication with the pancreatic duct. MCN rarely (6%) communicate with the main pancreatic duct–in contrast to pseudocysts and intrapancreatic mucinous neoplasm [6].

True cystic neoplasms of the pancreas are uncommon, and in the past, they were frequently mistaken for pancreatic pseudocysts. An increasing awareness of the entity, as well as improvements of ultrasound, CT-scanning or MR(CP)-scanning have improved the diagnostic accuracy in later years [1]. The further classification of cystic neoplasms is important. Serous cystic neoplasms are virtually never malignant, while MCN may be classified as benign, borderline, non-invasive malignancy or invasive malignancy based on histopathologic features such as nuclear enlargement, hyperchromatism, prominent nucleoli, microcalcifications, cellular atypia and frank stromal invasion [3–5]. A model of progression (benign—borderline–malignant) is supported by several observations: (1) initially benign MCN have shown progression after many years of observation, (2) seemingly benign MCN have recurred after surgical resection, (3) patients with malignant MCN are almost 10 years older than those with benign MCN, (4) areas of atypia or cancer-in-situ frequently coexist with frankly malignant epithelium in patients with invasive MCN [4,5,7]. Several authors discuss the difficulties of excluding malignancy in MCN. Preoperative biopsies are considered unreliable, but also intraoperative biopsy may miss a focus of malignant change [2,5,7]. Even the examination of the operative specimen

needs to be done with great diligence for the same reason [2,3,8]. The difficulties in obtaining a correct histopathologic grading as well as the premalignant potential of MCN has been considered arguments for radical resection of all MCN [2,3,7]. Regarding the prognosis, early studies reported 5-year survival rates exceeding 50%, but these figures may be somewhat overestimated due to an insufficient histopathologic grading [8]. In fact, malignant MCN with invasion seem to have a survival only slightly better than ductal adenocarcinoma, while long-term survival is the rule after resection of benign and borderline MCN [2–4].

To summarize, we report the unusual case of a perforated MCN as the cause of pancreatic ascites. The case illustrates that a pancreatic neoplasm with ascites does not equal peritoneal carcinomatosis or a locally advanced tumour. Examination of ascites fluid for amylase and cytology should be done in these cases.

References

[1] Chebli JM, Gaburri PD, de Souza AF, Ornellas AT, Martins Junior EV, Chebli LA, et al. Internal pancreatic fistulas: Proposal of a management algorithm based on a case series analysis. J Clin Gastroenterol 2004;38:795–800.

[2] Sarr MG, Carpenter HA, Prabhakar LP, Orchard TF, Hughes S, van Heerden JA, et al. Clinical and pathologic correlation of 84 mucinous cystic neoplasms of the pancreas: Can one reliably differentiate benign from malignant (or premalignant) neoplasms? Ann Surg 2000;231:205–12.

[3] Zamboni G, Scarpa A, Bogina G, Iacono C, Bassi C, Talamini G, et al. Mucinous cystic tumors of the pancreas: Clinicopathological features, prognosis, and relationship to other mucinous cystic tumors. Am J Surg Pathol 1999;23:410–22.

[4] Wilentz RE, Albores-Saavedra J, Zahurak M, Talamini MA, Yeo CJ, Cameron JL, et al. Pathologic examination accurately predicts prognosis in mucinous cystic neoplasms of the pancreas. Am J Surg Pathol 1999;23:1320–7.

[5] Kosmahl M, Pauser U, Peters K, Sipos B, Luttges J, Kremer B, et al. Cystic neoplasms of the pancreas and tumor-like lesions with cystic features: A review of 418 cases and a classification proposal. Virchows Arch 2004;445:168–78.

[6] Le Borgne J, de Calan L, Partensky C. Cystadenomas and cystadenocarcinomas of the pancreas: A multiinstitutional retrospective study of 398 cases. French Surgical Association. Ann Surg 1999;230:152–61.

[7] Rattner DW, Fernandez-del Castillo C, Warshaw AL. Cystic pancreatic neoplasms. Ann Oncol 1999;10(Suppl 4):104–6.

[8] Siech M, Tripp K, Schmidt-Rohlfing B, Mattfeldt T, Widmaier U, Gansauge F, et al. Cystic tumours of the pancreas: Diagnostic accuracy, pathologic observations and surgical consequences. Langenbecks Arch Surg 1998;383:56–61.

A case of Adult T-cell leukemia/lymphoma (ATL) with a survival of more than 13 years

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To the Editor

Adult T-cell leukemia/lymphoma (ATL) is an aggressive type of leukemia/lymphoma associated with the human T-cell lymphotropic virus type I (HTLV-I). ATL is characterized by a short survival time, a poor response to chemotherapy and is usually reported in adults, the mean age of onset being around 58 years. It is classically classified into four clinical types: acute, chronic, lymphoma, and smoldering [1]. We report an unusual case with a very prolonged survival time.

A 27-year-old black man was first examined in November 1991 with a history of skin lesions that started when he was 24 years of age. He was breast-fed for 3 years. Both the patient and his mother were HTLV-I+ and HIV −. Dermatological examination revealed infiltrated plaques on his back and nose. Physical examination, blood cell counts, blood levels of calcium and lactate dehydrogenase (LDH), chest x-ray and abdominal ultrasound were all normal. A T-cell lymphoma was diagnosed in a skin biopsy. In

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