

Acinar Cell Carcinoma of the Pancreas : A Case Report^{1,2}

Sang Hoon Lee, M.D.^{1,2}, Hyun Kim, M.D., Si Won Kang, M.D.

Acinar cell carcinoma (ACC) of the pancreas is rare and usually presents as a metastasizing tumor with poor prognosis in elderly patients with non-specific symptoms. We describe a case of pancreatic acinar cell carcinoma with peritoneal spread and multiple liver metastases. Abdominal sonography showed a well-marginated echogenic mass with a large central anechoic necrotic portion; CT scanning showed a large mildly enhanced lobulated mass with a low attenuation center and thin rim-like capsular enhancement. Irregular peritumoral peritoneal extension with multiple small low attenuation necrotic areas was also noted. Multiple small well-defined metastatic nodules showing low attenuation were scattered in the liver.

Index words : Pancreas, neoplasms
Pancreas, US
Pancreas, CT

ACC of the pancreas is an uncommon tumor with poor prognosis (1-7). Because it is rare, radiologic findings of ACC have been only sporadically described : a large well-defined mass with central necrosis, which tends to metastasize early (3-5), and metastatic fat necrosis is also frequently associated. We describe a case of ACC of the pancreas with peritumoral peritoneal spread and multiple liver metastases.

Case Report

A 68-year-old man who had undergone subtotal gastrectomy 11 years previously due to duodenal ulcer perforation was admitted with a palpable left upper abdominal mass. On admission, laboratory results including tumor marker studies were unremarkable. Abdominal sonography showed a well-marginated echogenic mass, approximately 10 cm in diameter, and

with a large central anechoic necrotic portion, in the left upper quadrant of the abdomen. The mass showed a slightly lobulated contour, and lay on the tail of the pancreas (Fig. 1. A). Several small anechoic cystic spaces were scattered within its solid portion; intra-abdominal lymph nodes were not enlarged. Consecutive abdominal CT was performed. The mass was located in the left upper quadrant of the abdomen, abutting onto the tail of the pancreas, and was mildly enhanced. Sonographically detected anechoic necrotic portions, including one which was large, lobulated, and central, and multiple small cystic spaces at the periphery of the mass were not enhanced. There was a focal area of peritumoral peritoneal extension with a bubbly appearance. Relatively thin rim-like capsular enhancement was noted at the well-marginated periphery of the mass. Multiple small well-defined nodules showing low attenuation, were noted in both hepatic lobes (Fig. 1. B, C, D).

The patient underwent exploratory laparotomy. Surgery revealed that the mass arose from the pancreatic tail and adhered closely to adjacent bowel loops. There was considerable irregular, creeping peritoneal tumor extension, probably due to focal disruption of the pancreatic mass, most of which was well-

¹Department of Radiology, Taejon St. Mary's Hospital, The Catholic University of Korea

²Department of Radiology, St. Vincent's Hospital, The Catholic University of Korea

Received July 1, 1998; Accepted August 7, 1998

Address reprint requests to : Sang Hoon Lee, M.D., Department of Radiology, St. Vincent's Hospital, The Catholic University of Korea # 93 Ji-Dong, Paldalgu, Suwon, Kyunggi-do 442-060, Korea

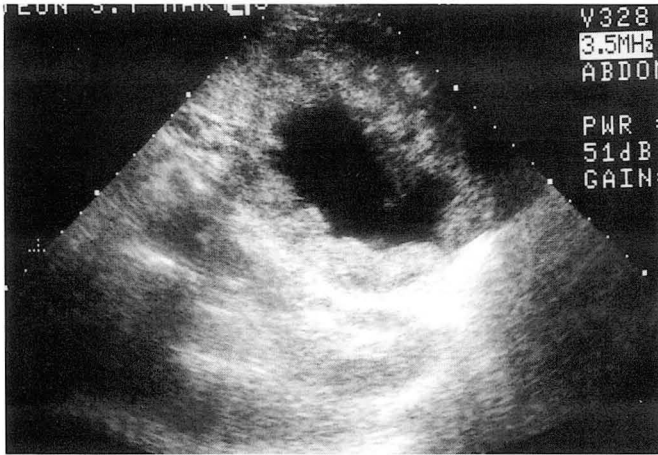
Tel. 82-331-40-2210 Fax. 82-331-47-5713

encapsulated, with a relatively thick, fibrous wall. A dirty yellowish-green necrotic fluid was aspirated from the central portion of the mass. Tissue pathology, as shown by light microscopy, as well as a study to determine immunocytochemical markers, and electron micrography, indicated acinar cell carcinoma of the

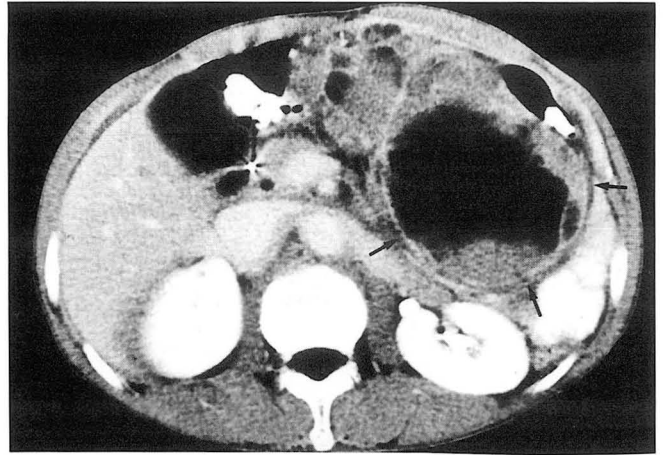
pancreas including numerous homogeneous electron-dense zymogen granules (Fig. 1. E).

Discussion

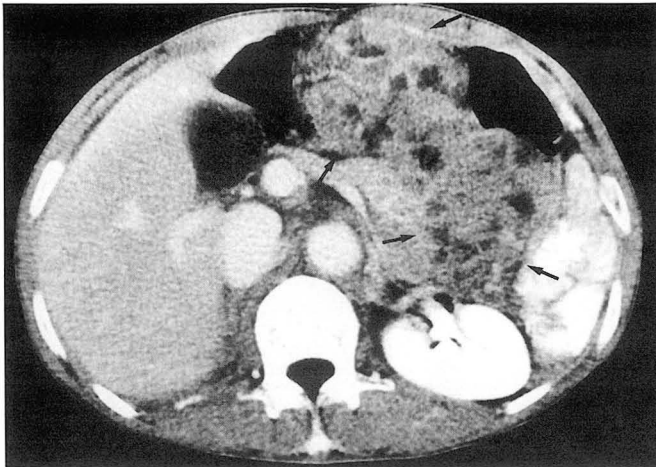
ACC of the pancreas is an uncommon malignancy



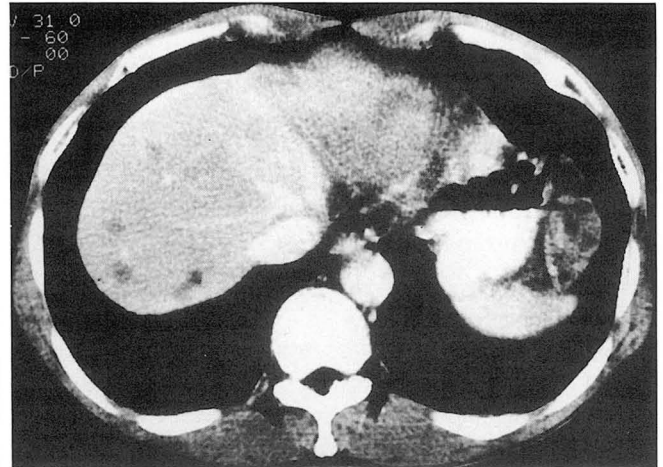
A



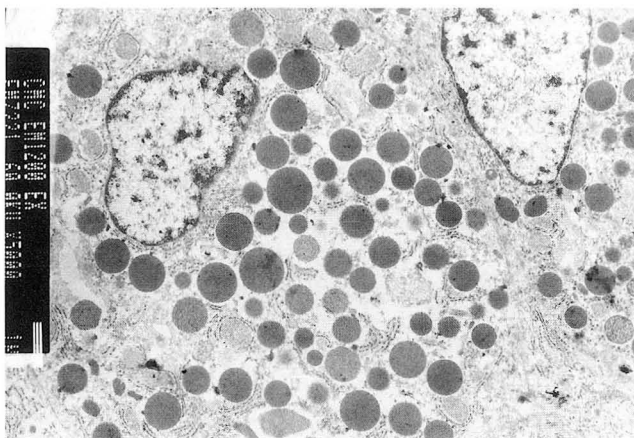
B



C



D



E

Fig. 1. A 68-year-old man with acinar cell carcinoma of the pancreas.

A. Transverse abdominal sonogram shows a well-defined echogenic mass with a large anechoic center with lobulated contour.

B. Contrast enhanced CT scan at the level of pancreas head shows a large mildly enhancing lobulated mass with low attenuation center and thin rim-like capsular enhancement (arrows).

C. CT scan at the level of pancreatic body shows irregular peritumoral peritoneal extension with multiple small low attenuation areas (arrows).

D. CT scan shows multiple small well-defined low attenuation nodules in both hepatic lobes.

E. Electron micrograph shows numerous electron-dense zymogen granules with perinuclear endoplasmic reticulum (x 5000).

and accounts for 1%–13% of exocrine pancreatic carcinomas (1–7). Pathologically, it is a large, lobulated, soft, fairly well-demarcated mass (3). Our case showed similar radiologic findings to those previously reported; they included a large well-defined mass with central necrosis and liver metastasis (4, 5). Interestingly, our case showed multiple variable sized low attenuation cystic spaces in the mass, histologically confirmed as necrotic foci, and peritumoral peritoneal extension. The large cystic mass may rupture and spread peritoneally, and this may be the cause of the unusual peritoneal tumor extension seen in our patient. Occasionally, ACC is associated with a characteristic syndrome in which disseminated subcutaneous and intraosseous fat necrosis with polyarthralgia is seen (4). The syndrome is characterized by numerous foci of fat necrosis due to excessive secretion of lipase, and these may occur on the trunk and limbs (1). In our case, however, there was no evidence of fat necrosis.

The histological diagnosis of ACCs is usually very difficult; lesions may be erroneously described as undifferentiated carcinomas of unspecified origin. An electron micrograph demonstration of zymogen-like granules in tumor cells and immunoreactivity of these cells to pancreatic enzymes such as lipase, trypsin, and chymotrypsin has proved helpful (2, 6, 7). In our case, numerous electron-dense zymogen granules, with

perinuclear endoplasmic reticulum were seen on electron micrography. This tumor should be differentiated from other pancreatic or retroperitoneal neoplasms such as cystic islet cell tumor, metastatic adenocarcinoma, necrotic neurogenic tumor, and leiomyosarcoma.

References

1. Webb JN. Acinar cell neoplasms of the exocrine pancreas. *J Clin Pathol* 1977; 30: 103-112
2. Morohoshi T, Kanda M, Horie A, et al: Immunocytochemical markers of uncommon pancreatic tumors: acinar cell carcinoma, pancreaticoblastoma, and solid cystic(papillary-cystic)tumor. *Cancer* 1987; 59: 739-747
3. Friedman AC. *Pancreatic neoplasms and cysts*. In: Friedman AC, Dachman AH. *Radiology of the liver, biliary tract, and pancreas*. 1st ed. St. Louis: Mosby, 1994: 807-934
4. Radin DR, Colletti PM, Forrester DM, et al: Pancreatic acinar cell carcinoma with subcutaneous and intraosseous fat necrosis. *Radiology* 1980; 158: 67-68
5. Lim JH, Chung KB, Cho OK, et al. Acinar cell carcinoma of the pancreas: ultrasonography and computed tomography findings. *Clin Imaging* 1990; 14: 301-304
6. Ueda T, Ku Y, Hasegawa Y, et al. Resected acinar cell carcinoma of the pancreas with tumor thrombus extending into the main portal vein: report of a case. *Jpn J Surg* 1996; 26: 357-360
7. Hewan-Lowe KO. Acinar cell carcinoma of the pancreas: metastases from an occult primary tumor. *Arch Pathol Lab Med* 1983; 107: 552-554

대한방사선의학회지 1998; 39: 1181-1183

췌장의 포상세포 암종: 1예 보고^{1,2}

¹가톨릭대학교대전성모병원 방사선과

²가톨릭대학교수원성빈센트병원 방사선과

이상훈^{1,2} · 김 현 · 강시원

췌장 포상세포 암종은 노령의 환자에서 비 특이적 증상을 갖고 간 전이를 잘 일으키는 예후가 나쁜 드문 악성 종양이다. 저자들은 인접한 장간막을 침범하고 간 전이를 일으킨 1예의 췌장 포상세포 암종의 초음파와 CT 소견을 보고한다. 초음파에서 내부에 괴사를 갖는 경계가 좋은 고에코의 종괴였다. CT상 종괴는 분엽상으로 관찰되었으며 약하게 조영증강되었다. 종괴의 가장자리는 얇은 띠 모양으로 강하게 조영증강되었다. 또한 종괴는 작은 여러개의 괴사 부위를 갖는 병소를 동반하면서 종괴 주위의 장간막으로 퍼져있었다. 간에 다양한 크기의 경계가 좋은 전이병소가 다수 있었다.

1999년도 고려의대 진단방사선과학교실 연수교육

대 상:진단방사선과 전문의, 전공의 및 일반의

일 시:1999년 2월 28일(일요일)

장 소:고려대학교 인촌기념관(안암 캠퍼스내)

복부 질환의 방사선학적 진단 (Current Radiology in Abdominal Disease)

08:30 -	등 록	
09:00 - 09:30	Plain radiogram of acute abdomen	임 재 훈 (성균관의대)
09:30 - 10:10	US of upper abdomen : anatomy and pitfall	고 영 태 (경 희 의 대)
10:10 - 10:50	CT of upper abdomen : anatomy and pitfall	정 규 병 (고 려 의 대)
10:50 - 11:10	휴 식	
11:10 - 11:40	Hemodynamics of liver and HCC	김 윤 환 (고 려 의 대)
11:40 - 12:20	Other hepatic tumor	박 철 민 (고 려 의 대)
12:20 - 1:30	점 심	
1:30 - 2:10	Disease of GB and biliary tree	차 상 훈 (고 려 의 대)
2:10 - 2:40	Tumor of pancreas	강 형 근 (전 남 의 대)
2:40 - 3:10	Pancreas inflammation	남 경 진 (동 아 의 대)
3:10 - 3:30	휴 식	
3:30 - 4:00	Kidney disease	김 승 협 (서 울 의 대)
4:00 - 4:30	Prostate MRI	조 경 식 (울 산 의 대)
4:30 - 5:00	Female pelvis MRI	변 재 영 (가톨릭의대)

❖ 연수교육 책임교수: 차 인 호

연수교육 담당교수: 박 철 민

❖ 연수평점: 6점

❖ 1. 신청방법: 사전등록: 우편, 전화 또는 FAX 이용

전화 (02) 818-6183, 818-6193

Fax.: (02) 863-9282

당일등록: 연수교육 현장

2. 수 강 료: 전문의 및 일반의: 5만원(당일등록 6만원)

전공의 : 3만원(당일등록 4만원)

사전등록마감 : 1999년 2월 26일(금요일)

3. 송금구좌: 한일은행 구로동지점 115-017429-12-506 최 승 희

뇌신경계방사선과학 연수교육 1999년 10월 3일(일요일) 예정