Discussion

Dr. George Jordan (Houston): I wish to compliment the authors on this fine presentation and to thank them for focusing our attention on this somewhat uncommon problem, but one which appears to be being recognized with increasing frequency.

Although the patients which they reported did not have cirrhosis, the fact that many of them consumed alcohol is probably significant since in our experience this type of pancreatic disease is not commonly seen in patients who do consume excessive amounts of alcohol.

We, too, have had an experience with patients with pancreatic ascites. Interestingly enough, in our experience, most of these have been in patients who had pseudocysts and this is of significance, because the number of pseudocysts which we see is significantly less than the number of patients that we see either with pancreatic trauma or with chronic pancreatitis.

In a study of our patients with pseudocysts six per cent of them were found to have ascites. There are several points which may be of significance.

First, the etiology in the patients described by the authors seems rather clear. In our patients, this was not true. Pseudocysts which we treated were quite large, filled with fluid, were tense, and there was no evidence of leakage at the time of surgery, though significant ascites was present.

We believe that surgery should be undertaken whenever this diagnosis is made because, if not, an untoward outcome may become apparent with time. In one of our first patients reported by Dr. John Howard and me several years ago, the patient was admitted with a diagnosis of alcoholic cirrhosis, and a constricting lesion of the colon. The patient was thought to be a poor operative risk with carcinoma of the colon and cirrhosis. No surgical treatment was undertaken and the patient later expired. At autopsy, the patient had only a ruptured pancreatic pseudocyst, cirrhosis or carcinoma of the colon could not have been treated by surgery.

The fluid may be serosanguineous and suggest carcinoma and, in fact, pseudocysts in the presence of carcinoma of the pancreas have caused ascites. We had one patient, for example, with inoperable carcinoma and a large pseudocyst in whom ascites occurred. Drainage of the pseudocyst resulted in relief of the ascites.

I also wish to point out that hydrothorax can occur either associated with the ascites or without ascites. The pleural fluid under these circumstances also contains a high amylase concentration and this diagnosis can be suspected. One of our patients, for example, was first seen by the chest surgery service.

The last point that I would like to make is that Paul Jordan had to leave early, but he assures me that one has to be careful in making this diagnosis because, if patients have been taking chlorothiazide diuretics, elevation of the serum amylase and elevations of the amylase circulation of ascitic fluid may occur in patients with cirrhosis of the liver. The exact cause of this, he tells me, is not known but it has been observed in patients. I haven't had any experience with it and I simply pass this on for your information.

Dr. Ward O. Griffen (Lexington): This seems to be a new entity which we are only recently recognizing. We have seen three patients with pancreatic ascites in Lexington within the past year and, interestingly enough, all three of these patients were black, which is not the same as our population who has pancreatitis.

And I wonder what the experience of others is. Is this indeed a new entity or have we missed this entity all these years and called all patients, who had a heavy alcoholic intake and ascites, cirrhotics with ascites and never bothered to examine the amylase content?

Or have the authors any information about the etiology? Has the alcohol or what the alcohol is mixed with changed? Are drugs involved in this particular entity? Is there, in fact, some pancreatic trauma which is unrecognized by the patient?

In our own three patients, we had one death in a patient who was operated on and who is a dead ringer for the patient that was presented in the manuscript. This patient had a fairly large pseudocyst in the tail of the pancreas which was quite adherent to the stomach. The patient had been treated "medically" for 30 days prior to the establishment of the diagnosis and was in rather poor shape so that a gastrocystostomy was performed as a simple procedure to provide internal drainage.

She, too, developed respiratory complications and eventually died of sepsis.

I wonder if perhaps cystogastrostomy is not the procedure to use in the case of a leaking pseudocyst of the pancreas, admitting that it might be somewhat of a chore to dig the cyst out of the retrogastric space.

Finally, I would like to re-emphasize the point that is made in the paper that pancreatography is extremely important in this particular condition. This is an operative picture of the third patient in our series. [Slide] For your orientation, the feet are down here and the head up here. This is a Penrose drain around the stomach and these are two catheters going into the pancreatic duct which we could see in the cyst wall. We eventually got a pancreatogram which indicated a totally normally appearing duct, as far as size is concerned, going all the way out to the tail and a normal sized duct which emptied well into the duodenum going toward the head.

We actually treated this patient also by providing an internal drainage between the stomach and the cyst wall.

DR. THOMAS T. WHITE (Seattle): I was very much interested in this paper and I would like to show a couple of slides.

[Slide] To date my personal experience is with 172 operative cases of pancreatitis of which 34 patients had pancreatic cysts and eight of whom have had ascites as the primary presenting symptom. Five of these patients were alcoholics, two had gallstones, and one patient had trauma several weeks before the ascites became obvious.

All of these patients were treated by pancreatojejunostomy. The problem with taking the pancreatograms on some of the patients with gallstones through the ampulla was that the dye leaked right out through the cyst into the belly so that we couldn't see anything. If you are going to take pancreatograms, you should take them more or less as Dr. Griffen did, by inserting your catheter to the right and to the left of the pancreas from the cyst itself.

[Slide] This slide brings out the fact that 14 of the patients presented primarily with fluid in the chest as well, somewhat as in Dr. Jordan's patient. They were seen by medical people first under the impression that they had carcinomatosis. Further, ten of the patients had prolonged hiccough as the presenting symptom. There is some overlap between the three groups: fluid in chest, belly, and hiccough.

Now, as far as the diagnosis is concerned, one alcoholic patient even had a prior laparotomy where the surgeon thought the patient had cirrhosis of the liver. The way the diagnosis was made was by taking a biopsy of an area of fat necrosis.

I agree that amylase should be taken on both the abdominal fluid and the blood. We have had blood amylase as high as 20,000, among the very highest levels we have seen.

In two or three patients, we got as much as 800 cc. per day out of the belly, on repeated taps.

As far as internal drainage to the duodenum and the stomach are concerned, in most instances this is impractical because the area is so fixed that it's much easier to bring a jejunal loop up.

We have done Roux-Y jejunostomy in all these instances. I would like to add that extending the opening to the right and the left of the patients who have some chronic pancreatitis such as Dr. Cameron suggested is a very good idea and it may prevent the possibility of recurrent pancreatitis later.) The one patient in whom we tried to do a cystogastostomy died. Our only death.

DR. G. D. ZUIDEMA (Closing): They have done well to emphasize the appearance of the syndrome of pancreatic ascites in association with patients with alcoholism or with the tentative presumptive diagnosis of malignancy. I would also like to point out there are a number of patients in the literature who have this syndrome associated with pancreatic trauma as well.

In regard to Dr. Jordan's comments about cytology, I would note that one of the patients in our series—a 29-year-old man—had a positive cytology initially. When we pointed out that there was no other evidence for malignancy, repeat cytology was interpreted as being questionable and when he was explored, he was found to have a pancreatic duct leak as was shown, so cytology alone in these patients can be misleading, at least in our experience.

I was also interested in Dr. Jordan's experience in the patient with pleural effusion, and I would like to report that last summer a thoracic variant of this type of pancreatic ascites was encountered in a patient operated upon by Dr. David Skinner at our hospital. This was a 19-year-old student nurse who had an episode of acute pancreatitis one year previously.

[Slide] She presented with increasing shortness of breath and this X-ray picture—thoracentesis revealed a bloody fluid with an amylase level of 1400 milligrams per cent. At thoracoabdominal exploration a fistulous tract was found originating from the midportion of the pancreas and extending through the aortic hiatus into the left pleural cavity. This tract was interrupted.

[Slide] A pancreatogram was performed and this demonstrated a point of obstruction at the ampulla and massive dilatation of the pancreatic duct behind this with an opening into the fistulous tract in the midportion of the duct. This is marked with a silver clip. The problem lies in the common duct for identification purposes.

A transduodenal sphincterotomy and caudal drainage into a Roux-en-Y loop were performed to decompress the pancreatic duct.

[Slide] Her postoperative course was benign and she was discharged from the hospital with this clear chest film. She has remained well during the ensuing 9 months.

We have had no experience with patients on chlorothiazide diuretics and we are unable to comment on that observation.

In answer to Dr. Griffen's question, three of these patients were Caucasians and six were Negro.

Our general technique of pancreatic duct drainage has been to use the most convenient route of internal drainage. Our one unhappy result—the one death in this series—was associated with cystogastrostomy.

In answer to Dr. White's comment, we have persisted in using the ampulla of Vater as the source for pancreatography, in an effort to pick up proximal duct damage or strictures, feeling that this is important in management as well.

In closing, I would emphasize that we feel it is important to survey all patients presenting with ascites, to study the serum amylase and the ascitic fluid amylase and protein in an effort to detect more of these patients and thereby offer them operative treatment.