Obstructive Jaundice Due to Bile Duct Tumor

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ABSTRACT

We reported here a rare case of a 62 year old male patient with obstructive jaundice due to bile duct tumor. The main clinical features were yellowish eye and skin, followed by pruritus and clay-colored stool. Ultrasonography showed common bile duct dilatation and without evidence of stones. Computed Tomography Scan of upper abdomen showed a mass which were thought of head of pancreas origin. Endoscopic Retrograde Cholangio Pancreatograph revealed tight narrowing of the distal bile duct to a malignant tumor. A stent was inserted to allow biliary drainage. A surgical plan for billio digestive anastomosis was rejected by the patient and family.

***Keywords**: bile duct tumor, CT scan abdomen, ERCP*

INTRODUCTION

Biliary tract tumor is the second most common primary hepatobiliary cancer, after hepatocellular cancer.[1] Although the numbers vary among countries and regions, about two thirds of all cases are perihilar tumors, about one fourth are distal extra hepatic tumors, and the remainder are intrahepatic.[2,3] They are more common in males being about 60 years old and associated with liver flukes, primary sclerosing cholangitis, chronic ulcerative colitis and congenital anomalies (most frequently Carole's syndrome).[3] In the Far East (China, Hong Kong, Korea, Japan), where *Clonorchis sinensis* is prevalent, cholangiocarcinoma accounts for 20% of primary liver tumors. *Opisthorcis viverrini* infestation is important in Thailand, Laos and western Malaysia.[1-3] These parasites induce DNA changes and mutations through the production of carcinogens and free radicals, and the stimulation of cellular proliferation of intra-hepatic bile duct epithelium.[3]

Grossly, the bile duct tumor can be divided into three types: polypoid or nodular masses, sclerosing and diffusely infiltrating.[3,4] Symptoms of bile duct tumor are nonspecific gastrointestinal complaints that include nausea, vomiting, anorexia and weight loss.[1,5] Painless jaundice is the most prominent sign and is usually followed by pruritus – a point of distinction from primary biliary cirrhosis where itching usually comes first.[2,3] Cholestasis and cholecytis due to obstruction of bile flow typically result in moderate-to-marked increases in serum levels of alkaline phosphatase, bilirubin, g-glutamiltransferase, and bile acids, whereas aminotransferase levels are only mildly elevated or normal.[5] Tumor markers, however are not specific and may also be present in nonmalignant conditions. Cancer antigen (CA) 19-9 in combination with carcinoembryonic antigen (CEA) has an accuracy of 86%.[6] Ultrasonography may show ductal dilatation throughout the obstructed liver segments, an abrupt change in ductal diameter may indicate the exact location of the tumor.[3,6] Computed tomographic (CT) scanning may show intrahepatic mass lesions and dilated intrahepatic ducts, which can be unilobate or bilobate suggesting of perihilar

tumor.[1,3] Magnetic resonance imaging (MRI) permits excellent visualization of hepatic parenchyma abnormalities, as well as the visu-alization of the biliary tree and vascular structures.[5] MRI may replace CT and angiography for the preoperative assessment of biliary tract tumors.[5,6] In some centers, endoscopic retrograde cholangio-pancreatography (ERCP) has proved to be the most useful modality in diagnosis of malignancy in the distal biliary tree.[2] It allows collection of bile juice or brush cytology for cytologic examination, but requires cytological expertise for interpretation.[2,4] Cholangiography has its own role in preoperative assessment. Information obtained from cholangiography and hepatic arteriography may determinate the extention of the tumor and its resectability.[2,3]

If the clinical state of the patient does not rule out surgery the resectability and extent of tumor is assessed.[3] Metastases, usually late, should be sought.[3,4] There are two objectives in treatment, which are to cure the patient of tumor and to relieve the bile duct obstruction to prevent hepatic failure.[1] Resection local or extensive is required. If unrespectable, palliative decompression of the bile ducts should be performed. Other modalities such as radiotherapy used in combination with total resection or in combination with chemotherapy (fluorouracil) and supplemental transcatheter brachytherapy, survival appears to be prolonged.[1-7] Chemotherapy preoperative or postoperative does not significantly improve survival or the quality of life in patients with bile duct tumors. In overall the prognosis is poor; it depends on histopathology of the tumor and the stage of the disease.[2,3,5]

CASE REPORT

Male, 62 years, was admitted to Dr. Cipto Mangunkusumo General National Hospital with chief complaint of yellowish colored skin and eyes since 10 days prior to admission. Fourteen days before admission he felt feverish, continuously, but only last for about 4 days, he didn't feel nausea but lost his appetite, had darked urine and clay colored stool, and developed pruritus afterwards. He never had hepatitis before, had no history of blood transfusion, and denied consumption of alcohol nor traditional herbal medicine. He had not experienced symptoms like this before, and had no relatives suffered of malignancy. The patient and family were of middle economic status and education. From physical examination, he was moderately ill, his whole body looked icteric, vital on signs were within normal limits, had icteric sclera, hepatomegaly, blunt edge but smooth liver surface and no tenderness of liver. The spleens were not palpable and no lymph nodes were palpable.

Laboratory examination findings were: hemoglobin 13.2 g/dL, hematocryte 39%, white blood cell count 6,800/mm^3, platelet count 472,000/mm^3, urea level 30 mg/dL, creatinine level 0.9 mg/dL, blood glucose level 126 mg/dL, AST (aspartate aminotransferase) 49 IU/mL, ALT (alanine aminotransferase) 64 IU/mL, albumin 4.29 mg/dL, globulin 2.17 mg/dL, total bilirubin 13.8 mg/dL, direct bilirubin 11.2 mg/dL, indirect bilirubin 2.6 mg/dL, g-glutamil transferase 622 g/dL, CEA 27.2 ng/mL, Ca 19-9 2349 ng/mL, HbsAg negative, anti HCV negative and IgM anti HAV negative.

Ultrasonography showed obstructive jaundice were thought caused head of pancreatic mass. A CT scan of upper abdomen showed intra and extra hepatic bile duct dilatation with a mass suspected (arrive for head of pancreas mass). The findings from ERCP showed papilla vateri and cannulation of the pancreatic duct were normal but cannulation of the bile duct was difficult. A papilotomy precut were performed and allowed passage of black colored bile juice, and with guidance of guide wire a stent were inserted. The radiology with

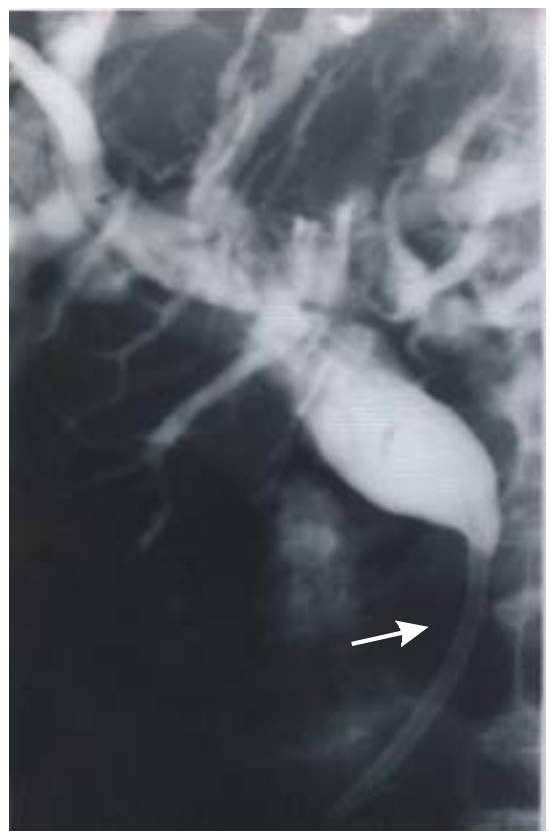

Figure 1. ERCP showing proximal dilatation of common bile duct with distal narrowing and stenting were done. Arrow shows filling defect which were presumptive the location of the bile duct tumor.

contrast results showed normal appearance of pancreatic duct, but irregular shaped bile duct with a filling defect at one third proximal bile duct and dilated bile duct which concluded a proximal bile duct tumor. After the ERCP amylase, lipase and bilirubin were re-measured, and amylase 193 u/L, lipase 107 u/L and total bilirubin 6.8 mg/dL, direct bilirubin 4.8 mg/dL and indirect bilirubin 2.0 mg/dL. The patient felt better, got his appetite back and didn't felt itchy anymore. Surgery was planned, but the patient and family refused to undergo surgery.

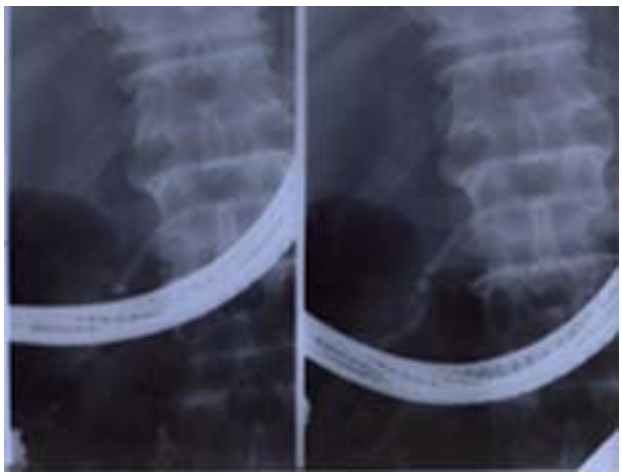

Figure 2. Regular shape and normal diameter of pancreatic duct on ERCP.

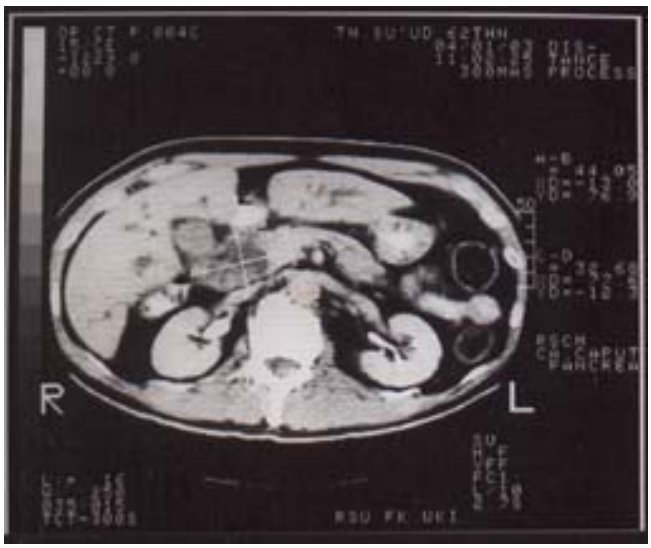

Figure 3. Computed Tomographic Scan of upper abdomen shows a mass in the head of the pancreas.

DISCUSSION

Obstructive jaundice due to bile a duct tumor is rare,[2] but currently it appears to be found more frequent. It is more common in male, being about 60 years old which resembles this patient.[1-3] Symptoms of bile duct tumors are not specific, they consist of icterus, gastrointestinal symptoms (nausea, vomiting, and loss of appetite), darked urine, clay colored stool and pruritus.[1-3] Physical examinations shows icterus and liver enlargement, laboratory examinations shows serologic findings of increased bilirubin especially direct bilirubin, increased alkaline phosphates, increased g-glutamil transferase, increased CEA, increased Ca 19-9 which conclude to obstructive jaundice but is not specific for bile duct tumor.[1-3,5] Because bile obstruction due to stone and pancreatic mass is more prevalent, symptoms and physical examination alone can not come to any conclusion. Imaging procedure like ultrasonography, computed tomographic scan, and or magnetic resonance cholangio-pancreatography has to be performed.[5]

In this case the ultrasonography and CT scan showed intra hepatic duct dilatation, and no signs of stones, but from the CT scan a mass were visualized which presumptive head of pancreas were mass. But endoscopic retrograde cholangio-pancreatography made it all clear, which the mass were not from the head of pancreas, but from the bile duct. When the ERCP were performed, because cannulation of the bile duct was difficult, a precut sphincterotomy were used to dissect the papilla to expose the bile duct. Traumatizing the papilla by repeated attempts at cannulation leads to edema and sphincter spasm and can temporarily occlude the outflow of pancreatic juice thereby increasing the intra pancreatic pressure and the risk of pancreatitis.[7] While, precutting if not performed by an experienced endoscopist can have disastrous effects, such as severe acute pancreatitis, large perforation of the duodenal wall and severe bleeding. In this patient, pancreatitis as side effect from ERCP or papilotomy precut did not occur. That could be probably because of his age (62 years), when the pancreatic exocrine function is already declined because of aging.[7]

Radiologic pictures which were taken with contrast during the ERCP showed irregularity of the bile duct and dilatation, and the pancreatic duct were normal. The mass were predicted in one third of the proximal site from the radiologic picture. But unfortunately, cytologic specimen from bile juice or cytologic brush was not obtained, because of the risk which may occur. But obstruction were relieved by inserting a stent, which were

quiet effective, the bilirubin decreased from 13.8 mg/dL to 6.8 mg/dl, so biliary cirrhosis could be prevented. But as we know plastic stent often become obstructed by the growth of a biofilm (a layer of bacteria and mucin) on the surface, it is necessary to inform the patient about this situation and he has to check his stent for 2-3 months after insertion and if it is necessary the stent has to be replaced with a new one.[6]

Etiology of this tumor could not be primary sclerosing cholangitis, chronic ulcerative colitis or congenital anomalies, because he does not have history of abdominal pain or enteritis. In fact he never experienced these symptoms before. But liver flukes could still be of cause.

Treatment of bile duct cancer depends on the stage of the disease.[1-3,5] Resection of the tumor followed by intra operative radiotherapy appears to prolong the survival rate of the patient. Distant metastases, extensive regional lymphadenopathy and regional vascular encasement or invasion preclude resection, so palliative treatment should be done.[1-3,5] As we see in this patient there were no evidence of distant metastases, extensive regional lymph node enlargement or regional vascular invasion, so at the time the diagnose has been made, the patient still operable which unfortunately after we informed the patient and family about his situation he chose not to undergo surgery.

Because this patient was still stage 2 or 3 and the location of the tumor was one third of proximal bile duct, resection followed with hepaticojejunostomy for the billiary-enteric continuity could have been the treatment of choice. Afterwards radiotherapy or chemotherapy or both as combination could prolong the survival rate.[4] But since, this patient refuse resection and the stent can re-occlude with all of its complication, the prognosis of this disease in this patient is poor.

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