Pancreatic Tuberculosis--- A Rare Cause of Obstructive Jaundice, Diagnostic Dilemma Resolved through Endoscopic Ultrasound

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Introduction

Tuberculosis (TB) is a global disease with a high incidence in the developing countries, especially in immunocompromised patients. pancreatic TB per se is a rare entity. The symptoms are also very diverse and the radiological findings are easily confused with malignancy making the diagnosis more difficult. We report a case of pancreatic tuberculosis who presented with obstructive jaundice and on CT scan was initially labelled as carcinoma (CA) head of pancreas. We confirmed the diagnosis on the basis of endoscopic ultrasound (EUS) guided fine needle aspiration (FNA) and biopsy.

Case Report

A 45 year old female, resident of Kashmir (Pakistan), presented with 2 month history of yellow discoloration of sclera, dark urine, clay colored stools and intense itching. She also complained of significant weight loss. Her past medical history was unremarkable. There was no history of any drug intake nor there was any history of Tuberculosis (TB) contact. On physical examination she was a thin lady with jaundice. Remaining examination was unremarkable. Some basic workup was already done. Her bilirubin was 5.8mg/dl, Alanine Transaminotransferase 68u/l and Alkaline Phosphatase 3800u/l. CBC, urea/creatinine and urine examination were normal. Ultrasound abdomen showed diffusely enlarged pancreatic head, slightly prominent pancreatic duct, mildly dilated common bile duct (CBD) and intrahepatic biliary channels. CT abdomen showed ill defined hypodense lesion, measuring 3.6x3.7 cm in the pancreatic head with post contrast enhancement. Carcinoma (CA) 19-9 was 318.13U/ml (normal up to 37 U/ml). She was suspected a case of CA head of pancreas and Endoscopic Retrograde Chloangiopancreaticography (ERCP) was performed . After informed consent, her ERCP was performed that showed swollen papilla. Papillotomy was performed. Balloon sweep reveals no stone or sludge. Normal flow of bile was established. On Endoscopic Ultrasonography examination (EUS), a mass was noted in pancreatic head measuring 3.1 x 3 cm vascularized without clear boundaries. common bile duct was normal. Pancreatic duct was not visualized, Portal vein was normal, small sub centimetric mediastinal lymph nodes were also noted. Multiple biopsies were taken from the mass as well as lymphnodes. Fine needle aspiration cytology from pancreatic head and body showed pyogenic abscess whereas the lymph node showed reactive changes. Histopathology from pancreatic head and body showed benign mucin secreting glands and epithelial cells where as the lymph node showed tuberculous lymphadenitis. Patient was put on anti tuberculous therapy and showed improvement. Symptoms of obstructive jaundice resolved. Appetite improved and she gained 7 kg weight. Follow up liver function tests also improved and ultrasound abdomen showed decrease in size of mass.

Discussion

Tuberculosis is affecting about 10 million people every year. WHO has declared tuberculosis a global emergency in 1993. Its incidence is still on the rise especially in under developed world. In 2010, according to World Health Organization, 0.413 million patients have been registered with tuberculosis in Pakistan, making it number 6 amongst the top rated TB countries in the world. It can involve any part of human body. Commonest being pulmonary tuberculosis(75%) followed by lymph nodes(35%), pleural effusion(20%), bones and joints(10%), genitourinary(9%), miliary(8%), meningitis(5%), abdominal(3%) and others(10%). Pancreatic tuberculosis is a rare disease. Autopsies of patients who have died of disseminated tuberculosis showed pancreatic involvement of 2 to 4.7%. There are several case reports and case series regarding pancreatic tuberculosis. More and more cases are being reported either because of increase in number of immunocompromised patients, increase in drug resistance or improvement in diagnostic technique.

Primary tuberculosis elsewhere can reach pancreas either through haematogenous spread or through lymphatic spread, as most likely in our patient. Another less supported version suggests that, pancreas are involved as a toxic or allergic response to
tuberculosis located at some other site. The symptoms of pancreatic TB can vary from fever, abdominal pain, abdominal nodules, back pain, jaundice, malaise, weakness, anorexia, weight loss and night sweats. The radiologic findings usually mimic a swollen head of pancreas that can easily be confused with a tumour. The tumour markers are not sensitive enough to differentiate benign from malignant conditions. CA19-9 itself can rise in a lot of benign hepatobiliary disorders and cholestasis is thought to be an important cause of its elevation. Most cases of pancreatic TB are diagnosed after tissue biopsy. A common technique used for pancreatic tissue sampling is fine needle aspiration (FNA) that has greater safety profile as compared to core tissue biopsy. FNA can be implemented through several methods. Intraoperative surgical biopsies although have an edge in false positive rates but false negative rates are comparable to other techniques. But not only there is a disadvantage of prolonged surgery, a lot of unnecessary surgeries are also carried out. CT/Abdominal ultrasound guided biopsies though commonly used but their accuracy is dependent on size, location and type of lesions. With the advent of Endoscopic ultrasound (EUS) this diagnostic issue has resolved with minimal invasion and comparable accuracy.

EUS-FNA can target small intra pancreatic masses that can be easily missed on CT scan. One study by Chang et al. shows that out of 61 pancreatic lesions picked up by EUS-FNA, CT scan was only able to pick up 25%. With the help of EUS we can also target non-malignant conditions like abscesses or infective lesions (as in our case) and autoimmune pancreatitis (especially with the help of trucut needle). Low grade malignancies like neuroendocrine tumours, metastasis to pancreas, and other surrounding organs, focal strictures located by ERCP, and above all the lymph nodes. Adequacy of specimen for lymph nodes (100%) is better than pancreatic lesion (94%) making a combined adequacy of 95%. For better results, it is recommended that aspirates should be taken from pancreatic mass and from lymph nodes. In our case we were able to detect the causative agent with the help of lymph node biopsy. With the help of EUS-FNA we can challenge a lot of diagnosis and can effect patients’ management. After the biopsy, her management plan was totally changed and she responded to anti tuberculous therapy. In a study Frazier et al. showed a 60% significant change in the management of pancreatic mass patients through EUS-FNA amongst which 30% got benefit because of benign pathology. The complication rates are also very low (1-2%) with EUS-FNA. The peritoneal contamination with CT is 16.3% as compared with EUS-FNA that is about 2.2%. The major issues regarding EUS are its lack of availability and training specialists especially in the developing world. We recommend that all pancreatic masses should be biopsied preferably through EUS-FNA, provided its availability.

References