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Original Research Paper

Gastroenterology

MINIMALLY INVASIVE APPROACH TO CYSTIC PANCREATIC NEOPLASMS

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ABSTRACT

Background: Cystic tumours are the second most common exocrine pancreatic neoplasms.Due to the advances in modern radiology, the identification of cystic lesions of pancreas is becoming common.Currently laparoscopy is considered as a safe and effective surgical approach for lesions in the body and tail of the pancreas.Pancreatic resection is associated with a significant morbidity and minimally invasive surgical techniques play a major role in reduction of hospital stay and enhanced recovery.

KEYWORDS : cystic neoplasm of pancreas, laparoscopic distal pancreatectomy, splenectomy

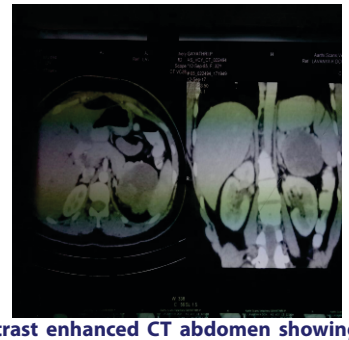
Introduction:

A cystic neoplasm needs to be considered when a patient presents with a fluid containing pancreatic lesion. Most of the cystic lesions are benign or slow growing and the prognosis is significantly better than with pancreatic adenocarcinoma.However,some of these neoplasms slowly undergo malignant transformation and thus will require surgical cure.The dilemma for the surgeon is an accurate assessment of the risk benefit ratio of resection versus observation of these lesions in each individual patient.Radiological features including the size of the lesion and its growth rate,the density of the lesion, characteristics of the wall such as nodules,septations,or calcifications,and the relationship between the lesion and the pancreatic duct usually help in categorising these lesions.Although a thorough history and radiographic findings often suggest a particular diagnosis,EUS guided FNA and analysis of cystic fluid or ERCP provide useful additional information to guide the clinical decision. Cysts that contain thick fluid with mucin,elevated carcinoembryonic antigen (CEA) or atypical cells must be treated as potentially malignant.

CASE SERIES

CASE 1:

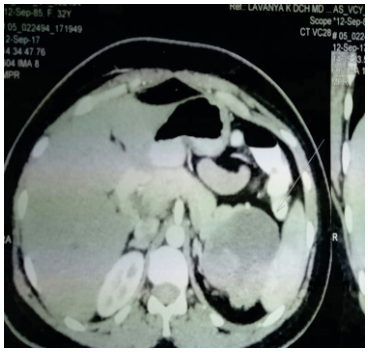
A 32 year old female presented with complaints of vague abdomen pain for 6 months with nausea and vomiting.Physical examination revealed epigastric tenderness.Upper GI endoscopy was normal.Contrast enhanced CT abdomen showed presence of cyst of size 6cm x 4cms in the tail of pancreas.



CASE 1:Contrast enhanced CT abdomen showing cyst in the pancreas.

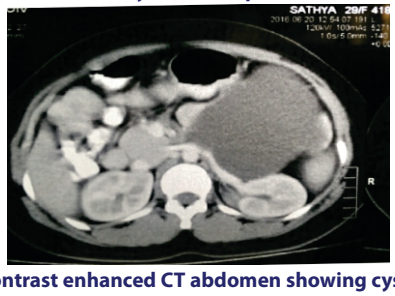
CASE 2:

A 29 year old female presented with complaints of pain in the upper abdomen for 8 months and weight loss was present.Physical examination revealed left hypochondrial tenderness. Upper GI endoscopy was normal.Contrast enhanced CT abdomen showed a solitary cyst of size 6.5cm x 5cm with fine septations in the tail of pancreas.

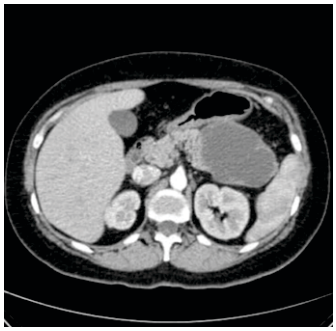


CASE 3:

A 48 year old female with previous history of hysterectomy presented with upper abdomen pain radiating to back on left side since 6 months.Clinical examination revealed tenderness over the epigastric and left hypochondrial regions.Contrast enhanced CT abdomen showed a well circumscribed lesion of size 8cm x 6 cm in the body and tail of pancreas.



CASE 3: contrast enhanced CT abdomen showing cyst in tail of pancreas.



METHODS :

All the 3 patients were symptomatic,cyst size more than 3 cms and hence planned for surgery.Distal pancreatectomy was planned and a minimal invasive procedure was decided upon over open procedure to reduce hospital stay,morbidity and early recovery can be acheived.

LAPAROSCOPIC DISTAL PANCREATECTOMY.

Position : right lateral decubitus position**.**

Ports: supraumbilical 10mm camera port,12mm,two 5mm working ports with additional 5mm ports for retraction,adhesions over the cyst released. Cyst dissected all around and mobilised.Lesser sac entered using harmonic scalpel and dividing gastro colic omentum.Inferior border of pancreas defined,retropancreatic tunnel created by dissecting posterior attachments of pancreas in avascular plane anterior to portal and splenic vascular pedicles.Splenic vessels identified,dissected and titanium clips applied and separated.Body of pancreas divided using endoGIA stapler.splenectomy with the cyst was done.Specimen with spleen was taken out using endobag through pfannesteil incision.

Per operative findings.

CASE1:

Cyst size is about 6 cm but cyst was very near to the splenic hilum,to avoid the vascular injury to the hilum and to remove the cyst in toto without rupture and spillage, laparoscopic distal pancreatectomy with splenectomy was decided per operatively and was performed successfully.specimen retrieved through pfannesteil incision**.**

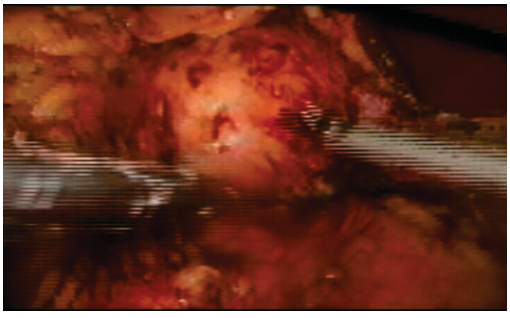
CASE 2:

cyst size is about 6 to 7cm but dissection and mobilisation of splenic vessels was found to be difficult hence laparoscopic distal pancreatectomy with splenectomy was done.

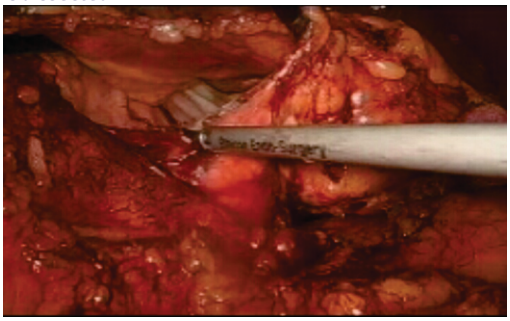
CASE 3:

Cyst size is more than 8cm and was adherent to splenic vein and inferior mesentric vein,vascular injury is unavoidable with spleen preservation. Hence laparoscopic distal pancreatectomy with splenectomy was done.

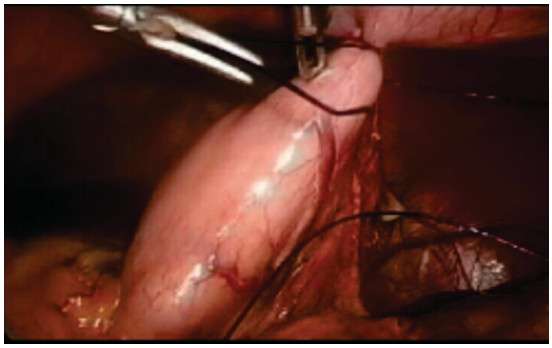
In all three patients drain placed and postoperative period was uneventful.Oral intake was started on day 2 and drain was removed on day 5.Post operative pain minimal and patients are followed till date.



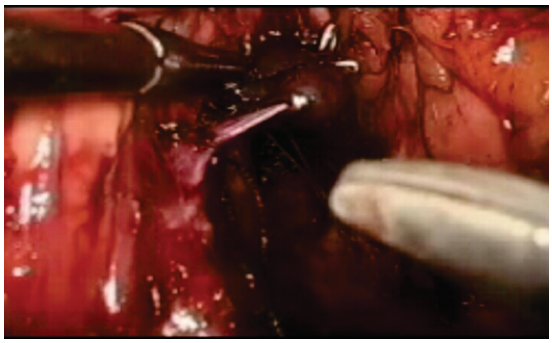
Cyst is dissected



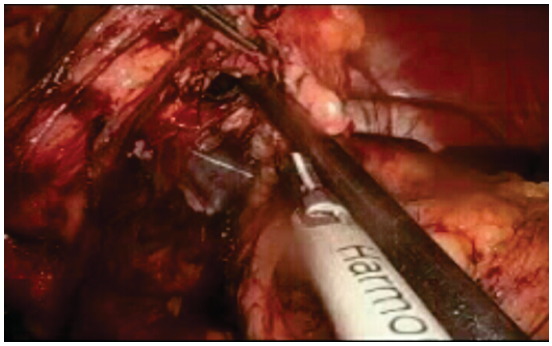
Gastrocolic omentum dissected,lesser sac entered.



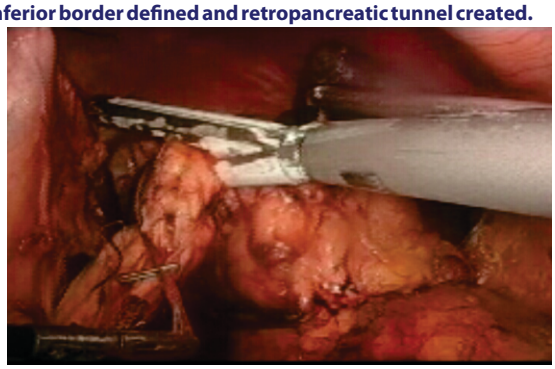
Retraction of stomach Fixed to anterior abdomen wall



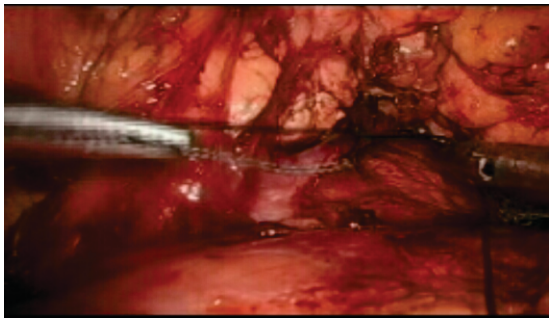
Splenic artery ligation



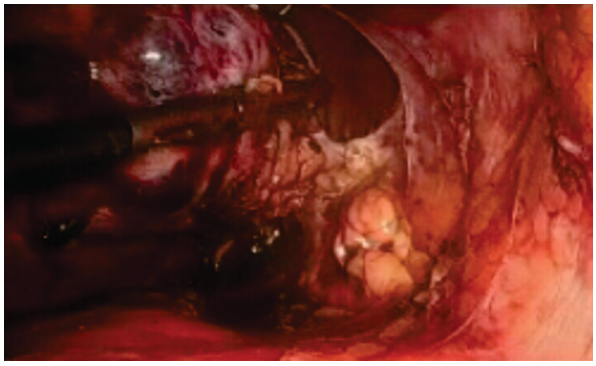
Inferior border defined and retropancreatic tunnel created.



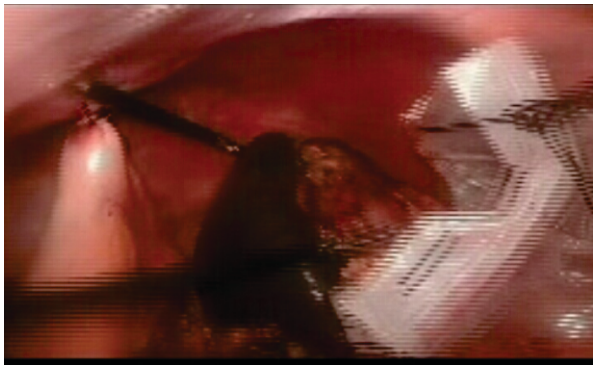
Pancreas is divided using endo GIA stapler.



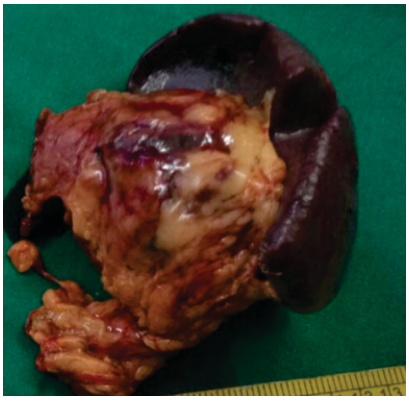
Splenic vein ligation



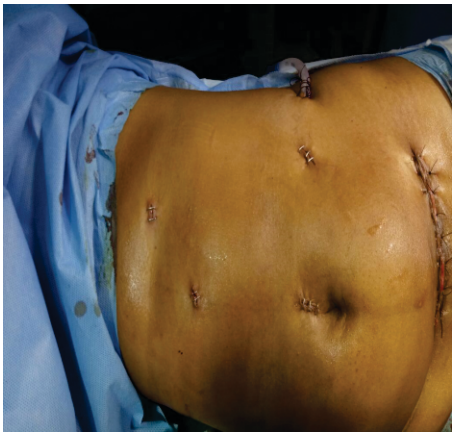
Lateral attachments of spleen is released



Endobag is used to take specimen.



Specimen



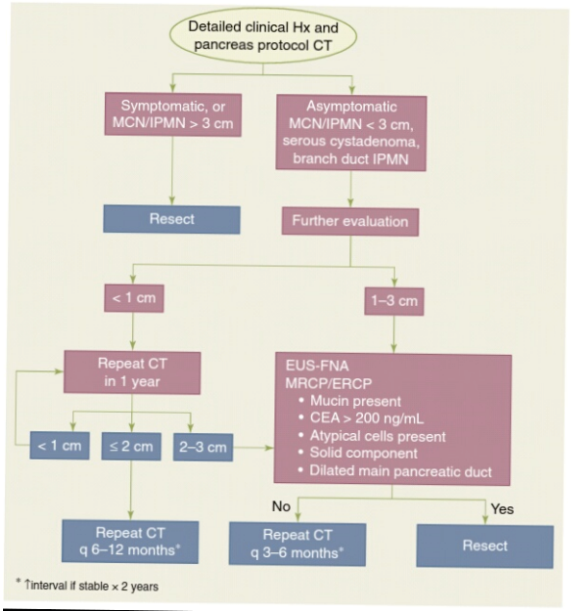
Right lateral decubitus position.

Post operative picture showing port postion.

HISTOPATHOLOGY :
CASE 1 - SOLID PSEUDOPAPILLARY CYSTADENOMA.
CASE 2 - SEROUS CYSTADENOMA
CASE 3 - SOLID PSEUDOPAPILLARY CYSTADENOMA.

DISCUSSION:
Management of the cystic lesions of pancreas is shown by the following flowchart.

MINIMAL INVASIVE MANAGEMENT:
Minimally invasive approach in the management of cystic neoplasm of pancreas by laparoscopic distal pancreatectomy with or without spleen preservation is recommended now as per the patients condition and severity of the disease.



CONCLUSION
Minimally invasive approach in the management of cystic neoplasm of pancreas has many advantages like a) Decresed hospital stayb) Less post operative pain c)Early recovery d)Reduced morbidity compared to the open surgery. Post operative complications like pancreatic fistula,Subphrenic collection, Atelectasis are slightly less as compared to the open surgeries as shown by many similar articles.Further research and more studies are required to substantiate the benefits of minimal invasive approach to cystic neoplasms of the pancreas.

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