

SUCCESSFUL MANAGEMENT OF A RARE CASE OF PANCREATIC TUMOUR - A CASE REPORT

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ABSTRACT

Cystic tumors of the pancreas are rare and can be confused with ovarian cyst. We present a case 32 year female with huge mucinous cystadenoma of the pancreas was initially diagnosed as ovarian cyst and was planned for laprotomy. Subsequent CT abdomen revealed mucinous cystadenoma of pancreas. The cyst was found to originate from the body and tail pancreas, and distal pancreatectomy with splenectomy was performed. The specimen weighed 7.060kg and measured 32x21x17 cms, which is the largest so far reported.

Keywords: *Pancreas, Mucinous Cystic Cystadenoma, Ovarian Cyst, Distal Pancreatectomy, Splenectomy*

INTRODUCTION

Cystic neoplasms of the pancreas are uncommon but confusing diagnostic problems that are being encountered with greater frequency (Cystic Neoplasms of the Pancreas). Pancreatic mucinous cystic neoplasms are reported to be 10% of all pancreatic cystic lesions and 1% of pancreatic neoplasm (Ghatak *et al.*, 2012). Accurate recognition of these lesions is important because of their ability to masquerade as pancreatic pseudocysts and their high cure rate following surgical treatment (Jimenez *et al.*,). We present a patient with a huge mucinous cystadenoma of the pancreas initially mistaken for an ovarian cyst is rare. To our knowledge this is the largest MCN of pancreas which has not been reported before (Kato *et al.*, 2005, Olaoye and Micheal, 2013; Hisa *et al.*, 2009).

CASES

A 32 year female patient came with complaints of lower abdominal pain and abdominal distension for 1 month of duration. She denied any symptoms of vomiting, haemetemesis, Malena, steatorrhoea and weight loss. Patient was initially evaluated under gynecology dept. On examination her vitals were stable per abdomen 15 x 10 cm well defined mass occupying the umbilical, epigastric, right and left lumbar. Non-tender. Lower border of the mass is not palpable. Ultra sound of the abdomen showed huge complex intra abdominal cystic lesion ?ovarian in origin.



Figure

Case Report

Routine blood investigations were normal, Ca 125 was elevated. Surgical opinion was sought. We suggested to do CECT of the abdomen which was large well defined abdomino-pelvic mass lesion approximately 22 x 30 x 17.5 cms possible arising from the body and tail of the pancreas with multiple enhancing septae and mass effect on the adjacent organs likely to mucinous cystic neoplasm of pancreas. Ca 19-9 was elevated.

Patient was transferred to surgical unit and was planned for exploratory laprotomy. Intra-operative findings were huge cystic mass arising from the body and tail of the pancreas. Transverse mesocolon was adherent to the cyst wall with splaying of the vessels. Splenic vessels were also found to adhere to the cyst wall. Small bowel herniation was present and it was found to be in the morrison's pouch.

Complete excision of the cyst with distal pancreatectomy and splenectomy was performed. Post operative period patient received pneumococcal vaccine and was uneventful. Patient was discharged on 8th day. Biopsy was reported as large lobulated, ovoid, cystic mass measures 32x21x17 cms and weighing 7.060kgs of mucinous cystic neoplasm of pancreas. Post operatively Ca 19-9 was checked after 6 months which was normal (<0.6) U/l



Figure 1: huge tumor with splaying of vessels and transverse mesocolon garlanding it



Figure 2: separating tumor from pancreatic bed

DISCUSSION

Mucinous Cystic Neoplasms

MCN are the most frequently encountered cystic tumors of the pancreas, accounting for 45–50% of tumors (table I). MCN display a clinical and histological spectrum ranging from clearly benign to frankly malignant tumors. Accurate diagnosis requires examination of extensive samples of cyst epithelium and mandates complete surgical resection and not just simple biopsy (Thompson *et al.*, 1999).

Current pathologic classification distinguishes between benign, borderline or malignant (cystadenocarcinomas) tumors based on their maximal degree of dysplasia (Kloppel *et al.*, 1996). This classification scheme correlates to patient prognosis, and suggests that these tumors should be treated as premalignant lesions with eventual evolution to aggressive behavior if left untreated.

MCN occur primarily in females (80%), with a mean age of 55 years, who complain primarily of abdominal pain or palpable mass. Symptoms such as weight loss and jaundice are more common with malignant tumors. Today, with the more liberal application of CT scanning in medical evaluations, an increasing percentage of tumors are being diagnosed while asymptomatic.

Table I: Cystic neoplasms of the pancreas: MGH Series 1978–1998

Type	Number	% of Total
MCN	95	45
Benign	61	29
Malignant	34	16
Serous Cystadenoma	68	32
IPMT	38	18
Cystic Islet Cell Tumor	4	2
Papillary Cystic Tumor	6	3

Grossly, MCN consist of multiloculated tumors with smooth, glistening surfaces which develop predominantly (66%) in the body or tail of the pancreas. Cysts range in size from 2 to 26 cm in maximum diameter, large tumors being more often malignant than smaller ones. The cysts are filled with viscous mucous material, and cyst walls are dense and fibrous with occasional calcification. Abdominal ultrasound or CT successfully demonstrates many of these characteristics. CT may also allow identification of solid components associated to cystic elements, features of borderline or malignant tumors but not of benign variants. Pancreatography rarely demonstrates cyst communication with pancreatic ducts, but frequently shows duct displacement by mass effect or ductal obstruction in 25% of malignant MCN. When performed, cyst fluid analysis generally +reveals high viscosity, elevated tumor markers (CEA), and may show malignant cytology (table II).

Table II: Cyst fluid analysis in cystic tumors of the pancreas

	Pseudocyst	Serous Cystadenoma	MCN-Benign	MCN-Malignant
Viscosity	Low	Low	High	High
Amylase	high	Low	Low	Low
CEA	Low	Low	High	High
CA 72-4	Low	Low	intermediate	High
Cytology	negative	Negative	Positive	Positive

Due to their inherent potential for malignancy, surgical resection is advocated for all MCN. In most instances this requires distal pancreatectomy with splenectomy, but pancreaticoduodenectomy is indicated for tumors of the head of the pancreas. More limited resections, such as enucleation, are not recommended owing to the risks of fistula formation and inadequate tumor margins (Talamini *et al.*, 1997). Resectable metastases should be excised with the primary tumor based on long-term cures reported after such procedures (Castillo and Warshaw, 1995).

Prognosis and Outcome: (Cystic Neoplasms of the Pancreas, Castillo and Warshaw, 1995, Talamini *et al.*, 1997, Sarr *et al.*, 1996)

Mucinous cystic neoplasm, it involves complete resection, which is often relatively straight forward, given the preponderance of distal lesions. A recent study has suggested that enucleation of MCA can be performed, especially for lesions located in the head or uncinate process. These cases showed a low rate of recurrence (Talamini *et al.*, 1997). Enucleation appears to be a debatable procedure because of the risk

Case Report

of the malignancy of these tumors and the high rate of postoperative complications. The prognosis after pancreatic resection is excellent, even for borderline mucinous cystic tumors. Follow-up is recommended by morphologic explorations because of the malignancy potential and the difficulty in performing a complete histologic examination. Recurrence is rare but possible. During follow-up, the discovery of a pancreatic cyst lesion can be related to postoperative pseudocyst, a recurrence of mucinous tumor linked to incomplete resection, a new mucinous neoplasm (Sarr *et al.*, 1996). Other considerations include the potential development of postoperative diabetes and exocrine insufficiency. This is often the case following total pancreatectomy, where patients may develop brittle diabetes. Oral enzyme replacement pills are available to assist with digestive malabsorption.

If splenectomy is performed consensus has not generally been reached for post-splenectomy immunization in adults. In children polyvalent vaccination is given to immunize against the future development of infection by *Streptococcus Pneumoniae*, *H influenzae*, or *Meningococci* species. Adults should receive, at the very least, the pneumococcal vaccine. Some authors recommend that the adult receive all three vaccinations as well; however, there is no evidence that the addition of the other two vaccinations provide any additional benefit. Vaccination should be given either two weeks before or after splenectomy with the most recent evidence showing that 72 hours after splenectomy is ideal.

Surgical resection is a definitive and complete procedure in most cases and long-term follow-up is rarely required. The exception is with Intraductal Papillary Mucinous Neoplasm where radiographic surveillance of the remnant pancreas is justified. Currently annual CT or MRI evaluation after resection is practiced, however precise guidelines for this sort of surveillance are not clearly defined in that the natural history of this process is still poorly defined. In those cases of IPMN, mucinous, or solid pseudopapillary tumors that harbor invasive malignancy, appropriate adjuvant chemo and/or radiation therapy may be justified. In these cases, oncologic outcomes (i.e. long-term survival) mirror those for any other invasive pancreatic adenocarcinoma (Cystic Neoplasms of the Pancreas).

Five-year survivals are excellent (> 95%) for benign or borderline MCN, and long-term survivals are also expected for 50–75% of fully-resected malignant tumors (Castillo and Warshaw, 1995).

REFERENCES

- Cystic Neoplasms of the Pancreas (No Date).** Society Surgical care of Alimentary Tract Patient Care Guidelines.
- Fernandez-del Castillo C and Warshaw AL (1995).** Cystic tumors of the pancreas. *Surgical Clinics of North America* **75** 1001–1016.[PubMed]
- Hisa T, Ohkubo H, Shiozawa S, Ishigame H, Ueda M, Takamatsu M, Furutake M (2009).** Mucinous cystadenoma of the pancreas with huge mural hematoma. *Pathology International* **59**(10) 762-5. doi: 10.1111/j.1440-1827.2009.02441.x.
- Iyiade Olatunde Olaoye and Micheal Dapo Adesina (2013).** Huge mucinous cystadenoma of the pancreas mistaken for a pseudocyst. *The Pan African Medical Journal* **15** 6.
- Kato M, Kubota K, Kita J, Shimoda M, Rokkaku K, Inaba N, Fukasawa I and Honma K (2005).** Huge mucinous cystadenoma of the pancreas developing during pregnancy: a case report. *Pancreas* **30**(2) 186-8.
- Kloppel G, Solcia E, Longnecker DS, Capella C and Sobin LH (1996).** *Histologic Typing of Tumours of the Exocrine Pancreas*, 2nd edition (World Health Organization, Springer, New York).
- Ramon Jimenez E, Carlos Fernandez-del Castillo and Andrew Warshaw L (No Date).** Cystic tumors of the pancreas, Department of Surgery, Massachusetts General Hospital and Harvard Medical School, Boston.
- Sarr MG, Prabhakar LP and Loftus EV Jr (1996).** The spectrum of cystic neoplasms including mucinous ductal ectasia. In: *Advances in Pancreatic Disease* (New York: Thieme) 352–370.
- Supriyo Ghatak, Sukanta Ray, Pankaj Kr Sonar, Somak Das, Keya Basu, Asit Ranjan Mridha, Avik Bhattacharyya and Rajib Sarkar (2012).** Giant mucinous cystic neoplasms of pancreas

and liver with unusual adipose tissue component: a case report. *Journal of Gastrointestinal Oncology* **3**(4) 353–357.

Talamini MA, Moesinger R, Yeo CJ, Poulouse B, Hruban RH, Cameron JL and Pitt HA (1997). Cystadenomas of the pancreas. Is enucleation an adequate operation? *Annals of Surgery* **227** 896–903. [[PMC free article](#)] [[PubMed](#)]

Thompson LDR, Becker RC, Przygodzki RM, Adair CF and Heffess CS (1999). Mucinous Cystic Neoplasm (Mucinous Cystadenocarcinoma of Low Grade Malignant Potential) of the Pancreas: A clinicopathologic study of 130 cases. *American Journal of Surgical Pathology* **23** 1–16. [[PubMed](#)]