Management Of Thirteen Cases Of Pancreatic Pseudocysts With Different Modalities

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ABSTRACT

Pancreatic pseudocyst is the commonest cystic lesion of the pancreas. When interference is indicated, open surgical therapy is the standard therapy with which other therapeutic modalities should be compared. Recently, endoscopic and laparoscopic approaches were reported for management of these cases. We aimed at exploring the minimally invasive techniques in treatment of pancreatic pseudocysts, namely endoscopic and laparoscopic, and comparing them to the open surgical therapy. Thirteen patients with pancreatic pseudocysts, for which interference was indicated, were included in this study. Seven patients were treated endoscopically, one laparoscopically and five by open surgery. The endoscopic techniques used were cystogastrostomy in six cases and cystoduodenostomy in one. In the laparoscopic case, we performed loop-sutured cystojejunostomy. The open surgical techniques were cystogastrostomy in four patients and cystoduodenostomy in one. The endoscopic therapy had the shortest procedure time (30 min) in comparison to 110 and 105 min for the laparoscopic and open surgical groups respectively. No mortality was reported in any of the groups. Postoperative complications represent 14%, 40% for the endoscopic and the open surgical groups respectively. The laparoscopic case had no complications. The hospital stay was shorter for both endoscopic and laparoscopic cases than open surgical cases. Because of the limited number of cases, definitive comparative results cannot be concluded. However, it can be stated that minimally invasive therapeutic techniques, whether endoscopic or laparoscopic, for pancreatic pseudocyst could be considered valuable, competitive and promising alternatives for open surgery. Large scale comparative studies are highly recommended in the future.

Introduction:

Pancreatic pseudocysts are among the most common complications of chronic pancreatitis, with an incidence between 18 and 25 per cent among patients with chronic pancreatitis **(5,15)**, and over 75% of the cystic lesions of the pancreas **(5).**
By definition pancreatic pseudocyst is a collection of pancreatic juice outside the normal ductal network of the ductal system that lacks epithelial lining and can be located almost everywhere in the abdominal cavity **(10).** In most of the time, however, they are found in the lesser sac behind the stomach **(8).**

Treatment Modalities:

(1) Surgical Treatment:

Before the era of laparo-endoscopic approaches the treatment of pancreatic pseudocyst was open surgery to perform internal drainage, external drainage or resection according to the criteria of the case.

Criteria that should be applied in selecting patients for surgical intervention include persistence of the pseudocyst for more than 6 weeks and ultrasonographic evidence of reasonable wall thickness **(36)**. Other parameters which are helpful in the management include the size of cyst, which if greater than 7.5 cm in diameter the cyst will probably need surgery as it is not expected to resolve spontaneously. Additionally, the development of symptoms indicative of complications such as rupture, haemorrhage or infection. Also, maturity of the pseudocyst should be allowed for 4-6 weeks to have a cyst wall thick enough to facilitate its drainage. The policy of management could be changed by the association of vascular complications as pseudoaneurysm and left sided portal hypertension from splenic vein thrombosis. The site of the cyst is another factor that may dictate certain operative decision. Retro-gastric cysts which are enlarging anteriorly can be treated by a posterior cystogastrostomy. This is appropriate only if the stomach is closely applied to the front of the cyst. On the other hand, cysts around the head of the pancreas close to the duodenum can easily be drained by cystoduodenostomy. Large cysts, which enlarge and bulge inferiorly through the transverse mesocolon are best drained by cystojejunostomy **(26).** In general, the most preferable approach is cystojejunostomy Roux-en-Y because the Roux loop can be anastomosed to the lower part of the cyst. Resection is preserved for those pseudocysts largely replaced the tail or body of the pancreas **(21, 7, 38).**

(2)Endoscopic Treatment:

It is the treatment of choice in some centers to drain pancreatic pseudocysts endoscopically either to the stomach, to the duodenum, or transampullary if a detectable communications with the pancreatic ducts are visualized by prior ERCP **(31, 14)**. However, these techniques require a well-trained experienced hands and a high facility centers. Using the indentation of the bowel lumen as a guide, sometimes helped by endosonography, the pseudocyst is punctured with a diathermy needle and then the stoma is extended to 10-15 mm incision **(9)** using over-wire sphincterotome. For the possibility of infection, stenosis or obstruction of the stoma between the cyst and the stomach or bowel loop, an endoprosthesis (stent) may be applied with good results. These complications in addition to bleeding are considered by some authors to be the main drawbacks of the technique **(26).** Consequently, endoscopic treatment could be considered both safe and effective treatment, and should be looked at as an alternative option before standard surgical drainage **(13).**

(3) Laparoscopic Treatment:

Recent advances in laparoscopic equipment and techniques have enabled the trained surgeons to perform increasingly sophisticated laparoscopic procedures **(17)**. Several authors reported laparoscopic internal drainage of pancreatic pseudocysts, whether to the stomach **(2, 37, 30, 20, 34, 19, 29)** or to the jejunum **(3, 6, 11, 27)**.

Laparoscopic cystogastrostomy is either through an intraluminal or an extraluminal approach. The intraluminal method entails the introduction of two to three trocars under laparoscopic guidance through both abdominal wall and stomach wall. Afterwards, the abdominal cavity is decompressed and the stomach is insufflated. The cyst is then localized, punctured and opened widely either by cautery or mechanical stapler **(2, 37, 34)**. The extraluminal approach is either transgastric by incising the anterior wall of the stomach to reach the dome of the cyst through the posterior gastric wall to be opened **(30, 20)** or side-to-side cystogastrostomy between the posterior wall

of the stomach and the cyst wall **(29)**. Laparoscopic cystojejunostomy, which has been reported only a few times, appears to be more appropriate because of the excellent results obtained by the same technique in open surgery. Three techniques were described; cystojejunostomy with laparoscopically assisted side-to-side enteroenterostomy **(11)**, Roux-en-Y cystojejunostomy **(27, 6, 17)** or simple loop cystojejunostomy without enteroenterostomy **(3)**. This last technique appears to be simpler and needs neither exteriorization nor stapling devices. Consequently, we decided to use this technique in our laparoscopic cases.

In spite that laparoscopic approaches are recommended as safe, reliable, and minimally invasive treatment for pancreatic pseudocyst, further assessment and refinement of the techniques are still needed **(32).**

(4)Percutaneous Treatment:

It was originally performed for infected cysts and severe embarrassment with immature cyst. The improvement of US, CT, and MRI can greatly facilitate accurate localization of the pseudocyst and consequently the insertion of various types of catheters for external drainage with a low morbidity and mortality **(18).** Moreover, percutaneous internal drainage via cystogastrostomy was attempted successfully by many groups **(31)**.

Patients and Methods:

Patients with pancreatic pseudocysts referred to the laparo-endoscopic units of the Department of Surgery, Assiut University Hospitals in the period from June 2000 to July 2002 were dealt with in this study. All the patients fulfilled the following **inclusion criteria:**

At least 6 weeks had elapsed since the last attack of pancreatitis to allow the cyst wall to be mature enough for drainage.

All patients had no manifestations of acute pancreatitis or acute exacerbation.

The size of the pseudocyst was more than 7cm in diameter, to produce a well-manifested indentation of the bowel lumen as detected by preliminary endoscopic examination (an important condition in cases selected for endoscopic treatment).

Absence of pseudocyst complications: as rupture, leakage, haemorrhage or infection.

All cases were presented with the cyst for the first time with no previous trial of treatment excluding recurrent cases.

All patients underwent the following steps of management:

(1). History Taking: with special consideration to the onset of the complaint, the course of the disease, any symptoms suggestive of complication, symptoms suggestive of GIT compression by the cyst, and any previous manipulation or treatment modality done for the cyst.

(2). Clinical Examination: for the detection of any palpable mass, any sign of complication, or acute exacerbation of the condition.

(3). Investigations including:

Abdominal Ultrasonographic examination was done for all patients to detect the cyst, its site, size, wall thickness, and any abnormality that may preclude the needed interference.

Abdominal CT was done in some selected cases when the U.S. data are not conclusive or accurate enough to help managing the case.

Barium study was done in some cases for diagnosis and assessment.

E.R.C.P. was done in some cases on suspecting communication between the pseudocyst and the pancreatic ductal system **(28, 39)** or treating associated obstructive jaundice which may be encountered **(24)**.
Investigations to assess the patient general condition: as chest X-ray examination, ECG examination, complete blood picture, blood sugar curve, liver function tests, and kidney function tests.

(4). Management:
According to the preoperative data, each patient was assigned to a drainage procedure whether endoscopic (group 1), laparoscopic (group 2) or open procedure (group 3). The choice between the different procedures was mainly dependent on the surgeon's preference and expertise.

Group I: Endoscopic Procedure:
The pseudocyst was manipulated using the endoscopic approach as follows:
Preliminary endoscopic diagnosis using the forward viewing video endoscope of Pentax version XQ 200 series to determine the appropriate site of drainage by looking for the most prominent bulging part of the cyst through the bowel lumen, whether in the stomach or the duodenum.
Endoscopic manipulative technique for pseudocyst drainage was performed using the side viewing video-duodenoscope of Pentax version XQ 200 series. The cyst was punctured with a long tipped needle through the bowel lumen and a sample of the pseudocyst fluid was aspirated for examination and a radio-contrast material (Videographine solution) was injected through the pseudocyst cavity for assurance and visualization. Using the pre-cut knife sphincterotome, the cyst wall was opened with low frequency pure cutting current diathermy to create a stoma and a malleable glue-tipped guide wire was threaded to the cyst cavity as fare as possible, helped by continuous suction of any efluxing fluid from the cyst. Pull type sphincterotome was threaded over the guide wire to enlarge the stoma to10-20 mm in diameter using blended current diathermy (may be sufficient in some cases for drainage). A self-retaining double pig-tailed tip stent (endoprosthesis) is then deployed through the pseudocyst lumen over the wire for continuous drainage and prevention of stomal obstruction later on till complete cyst collapse. If the content of the pseudocyst was somewhat thick, infected, or contain flacks of necrotic tissues or pus, a wide bore pig-tailed tip nasal-cystic catheter was introduced inside the pseudocyst beside the stent and a continuous washout of the content for 1-2 days was carried out following this procedure to prevent stoma or stent blockage.
The patient was followed after the procedure for 1-2 days and given prophylactic antibiotics, analgesic anti-inflammatory agent if needed, and wash through the nasal-cystic catheter if it was applied. Afterwards, the patient was discharged on the third day after the procedure.

Group II: Laparoscopic Procedure
The pseudocyst was managed using laparoscopic approach. Our aim was to perform simple loop cystojejunostomy as described by Baca et al., 1998. Prophylactic antibiotic in the form of third generation cephalosporin was given immediately preoperatively. Under general intubation anesthesia, the abdominal cavity was insufflated with carbon dioxide through the lower part of the abdomen, as the cyst usually occupies the upper and middle abdominal compartment. The surgeon stood between the legs of the patient. Four trocars of the 10 mm diameter were introduced

in the lower abdomen, namely right iliac, left iliac, suprapubic and right flank. The 30° scope was introduced in the suprapubic trocar. The transverse colon was retracted upwards and anteriorly to localize the cyst bulging through the transverse mesocolon.
A cystotomy was created as low as possible to be dependent, through which the cyst was evacuated. The scope was introduced through the cystotomy to explore the cyst cavity. A sample of the cyst fluid was taken for cytologic examination and another biopsy of the cyst wall was sent for pathologic assessment. A three cm jejunostomy was created few centimeters from the duodenojejunal junction. Cystojejunostomy was created using single layer continuous full-thickness sutured anastomosis. After thorough suction irrigation, a tubal drain was introduced through the lower right port. The patient was given antibiotics postoperatively and put to oral feeding on the second postoperative day, while the drain could be removed on the third or fourth day when the patient was discharged from the hospital.

Group III: Conventional Surgical Procedure
The pseudocyst was treated by conventional surgical procedures through exploratory incision, and then drained either to the stomach (cystogastrostomy), or drained to the duodenum (cystoduodenostomy) according to the more bulging and dependent point through the bowel lumen. A nasal gastric tube for external suction and an intra-peritoneal tubal drain were introduced before wound closure.
The patient was followed up after the procedure for 5-8 days with prophylactic antibiotics, analgesic anti-inflammatory agent if needed, and intra-venous line and intravenous fluid for 2 days till extraction of the nasal cystic tube and the start of the oral fluid intake. The patients were looked after in the department till discharged from the hospital.

(5). Follow Up:
All patients of the three groups were followed up after discharge in the out patient clinic of the hospital for a period ranging from 3-6 months after the procedure for detection of any complication.

Results:
Thirteen patients with pancreatic pseudocysts were included in this study. All of them were selected from the Department of Surgery, Assiut University Hospital. They all fulfill the inclusion criteria previously mentioned.

Age and sex incidence:
Age and sex incidence in this study is shown in table (1)

▼Age and sex►	Males		Females		Total	
	No.	%	No.	%	No.	%
▼20	1	7.7	-	-	1	7.7
20-30	3	23	2	15.4	5	38.5
30-40	2	15.4	1	7.7	3	23
40-50	1	7.7	2	15.4	3	23
▲50	1	7.7	-	-	1	7.7
Total	8	61.5	5	38.5	13	100%

Table (1): Age and sex incidence.

Presentations:
Most of our patients presented with abdominal pain, palpable mass, and symptoms of gastric compression. However, other presentations are also encountered, and table (2) shows the number and percentage of these presentations.

The symptoms	Number of cases	Percentage
***-Abdominal pain**	10	77
***-Palpable abdominal mass**	9	69.2
***-Nausea &vomiting**	6	46.2
***-Weight loss& anorexia**	5	38.5
***-Fever & toxaemia**	2	15.4

Table (2): Number and percentage of presentations

Method of management:
Seven cases were manipulated endoscopically (group I); one case was treated using laparoscopic approaches (group II) while five cases were managed by the conventional surgical treatment (group III). Table (3) shows the number, sex incidence of each group studied.

Group ►	**Group I Endoscopic ttt**		**Group II Laparoscopic ttt**		**Group III Surgical ttt**		**Total**	
▼ Sex	No.	%	No.	%	No.	%	No.	%
Males	6	46.2	1	7.7	3	23	10	77
Females	1	7.7		0	2	15.4	3	23
Total	7	53.8	1	7.7	5	38.5	13	100

Table (3): Number and sex incidence of the studied groups.

Group I: Endoscopic Procedure
It included seven patients that were dealt with by the following endoscopic procedures as shown in table (4).

The procedure done	Number of cases	Percentage
Cysto-gastrostomy with single pigtailed stent drainage.	1	14.3
Cysto-gastrostomy with double pigtailed stent drainage.	2	28.5
Cysto-gastrostomy with a single pigtailed stent and catheter drainage.	3	42.9
Cysto-duodenostomy with single pigtail stent and catheter drainage.	1	14.3
Total	7	100%

Table (4) Endoscopic Techniques performed for group I patients.

The time of the endoscopic procedure done ranged from 20-45 minutes with mean time for endoscopic procedure about 30 minutes. The intra-procedural morbidity and mortality was zero percent. The post-procedural mortality was also zero percent. One patient, however, developed infection with obstruction of the single stent applied by pus flacks and debris (14.3 % of cases) that necessitated redo- procedure with application of a nasal cystic tube and washout through it for 2 days under appropriate

antibiotic umbrella. The period of hospital stay of the endoscopically treated group was 2-3 days with mean period of about 2 days.

Group II: Laparoscopic Procedure

One patient was dealt with by laparoscopic loop cystojejunostomy as described in the methodology. The patient was 19 years old male, who presented with abdominal mass and abdominal pain that was apparent three months after blunt abdominal trauma. Ultrasonography and CT scan revealed huge pancreatic pseudocyst of 20X16X11 cm in diameter. The patient underwent laparoscopic cystojejunostomy that lasted for 110 minutes. After laparoscopic management, the postoperative course was uneventful and the patient was discharged from hospital on the third postoperative day. Follow up did not show infection or recurrence and a CT scan after three months showed complete resolution of the cyst.

Group III: Conventional Surgical Procedure

It included five patients, who were operated upon using the standard surgical procedure for pancreatic pseudocysts through exploratory abdominal incision. Cystogastrostomy was done for four patients (80% of cases), while cystoduodenostomy in one patient (20% of cases). The time needed for the surgical approach ranging from 90-160 minutes with a mean time of about 105 minutes. The intra-operative morbidity and mortality was zero percent. There was no post-operative mortality. However, the post-operative morbidity is shown in table (5).

The complication	Number of cases	Percentage
Non specific anesthetic complications.	1	20
Post operative ileus with vomiting and distension	1	20
Wound infection	1	20

Table (5): Post-operative complications in-group III patients.

The hospital stay in-group III ranged from 5-8 days with a mean of about seven days.

The data of the three groups are shown in table (6).

The Procedure	Group I Endoscopic ttt (Minimally invasive)	Group II Laparoscopic ttt (Minimally invasive)	Group III Surgical ttt (Invasive)
The mean time of the procedure	30 min	110 min	105 minutes
Mortality (%)	0	0	0
Post-operative morbidity (%)	14.3	0	40
Mean hospital stay	2	3	7

Table (6): Comparison between the three groups.

Discussion:

In this study, thirteen patients with pancreatic pseudocysts were treated using endoscopic, laparoscopic, and conventional surgical approaches.

Most of our patients were males constituting 8 out of 13 patients (61.5% of cases) in comparison of 5 females' patients (38.5% of cases). Abdominal pain was the most predominant symptom in 10 cases (77% of patients), which is slightly lower than previously reported incidence of 86% of cases **(10).** Nausea and vomiting were encountered in 6 patients (46.2%). This was in agreement with other reports **(16).** A palpable abdominal mass was encountered in 9 patients (69.2%), while other authors reported moderately lower rate (50%) **(23)**. The only complication was infective in nature causing fever and toxaemia in two patients (15.4%). This is in contrary to what was postulated that about one third of cases of pseudocysts bigger than 6cm produce complications **(10)**.

In our series, **endoscopic technique** was used in seven cases. Stenting through a small cystogastrostomy incision was the method of choice using double pigtail stent alone or in conjunction with nasal cystic catheter in some selected cases for washout of debris and thick exudates as postulated. Other authors advocated the use of large cystogastrostomy incision (10-15mm) with or without nasal gastric tube suction **(9, 31)**. The technique we advocated for used, however, was more appealing to us due to the ability to avoid bleeding and to the lack of endosonographic tool in our unit, which is so beneficial in prevention of any vascular injury **(25)**.

There were no deaths related to the procedure, which was in agreement to the recorded result of 0% **(12)**. The success rate of this preliminary study was about 85%, which was encouraging and in accordance to the recorded success rates of 83% **(13)** and 96-100% **(9).** In this study, postoperative morbidity of the endoscopic technique was 14.3%, which was also encouraging when compared with the recorded incidence of 4.5-18.2% **(31).** Consequently, endoscopic internal drainage procedures could be considered safe and effective **(1).**

Laparoscopic treatment, on the other hand, remains early in its development but appears to have potential benefits from the application of minimal access techniques **(35)**. The technique we preferred in our case was simple loop cystojejunostomy as reported by **Baca et al.** entailing single layer sutured anastomosis of the cyst to a dependent site of the jejunum **(3)**. Although the cyst was very huge, it was completely resolved with uneventful postoperative course. As it was only one laparoscopic case, we cannot draw obvious conclusion. However, satisfactory results could be anticipated when more cases would be performed as other authors reported **(33)**.

Surgical treatment was done in five patients, with no mortality during the procedure or in the post-operative period. The postoperative morbidity was about 30%. In spite of the small number of cases in our study, our results are in agreement with the previous reported data that conventional surgery for pseudocysts carries a very low mortality risk but may cause morbidity in a minority of cases **(22),** and can be considered as a safe method with good long term results **(4)**.

In spite of the relatively limited number of cases in our study, the comparison between these preliminary results of the different groups shows that the endoscopic technique appears to be favorable regarding the invasiveness of the procedure, its duration, the hospital stay, and the post operative morbidity. Additionally, laparoscopic approach, being also minimally invasive, could be considered an alternative therapy when the needed equipments and experience are available. Recently, the increasing number of reported trials of minimally invasive approaches, whether endoscopic or laparoscopic, improves the confidence level of these

techniques that are considered as promising competitors to the conventional open surgical procedures.

In conclusion, treatment of pancreatic pseudocyst is in an era of re-evaluation. Relatively new and minimally invasive techniques have been introduced as alternatives to the standard conventional open surgical management. Endoscopic procedures have been increasingly used with excellent results. Laparoscopic approach, although still under trial, appears to be promising. However, large-scale comparative studies of the three different therapeutic modalities are highly recommended.

References

1. Aranha G.V., Prinz R.A., Freeark R.J., Kruss D.M. & Greenlee H.B. (1991): Evaluation of therapeutic options for pancreatic pseudocysts. Arch Surg., May; 117 (5): 717-21.
2. Atabek U, Mayer D, Amin A & Camishion RC (1993): Pancreatic cystogastrostomy by combined upper endoscopy and percutaneous transgastric instrumentation. J Laparoendosc. Surg. 3: 501-504
3. Baca I, Schultz CH & Goetzen V (1998): Technik der Laparoscopischen Pancreatocyst-Jejunostomie. Zentralbl Chir. 123:183-187
4. Bottger T., Steegmuller K.W., and Junginger T. (1991): Results of surgical therapy of pancreatic pseudocysts. Langenbecks Arch Chir. ; 376 (1): 42-9.
5. Bradley E L III, Clements J L Jr & Gonzalez A C (1979): The natural history of pancreatic pseudocyst: a unified concept of management. Am. J. Surg., 137: 135-141
6. Champault G, Rizk N, Lebhar E, Catheline JM, Barrat C & Cazacu F (1998): Traitement laparoscopique de faux kystes du pancreas: trios cas. Ann. Chir. 52: 41-44
7. Coluccio G., Paino O. & Rosato L., (1996): Surgical treatment of pancreatic pseudocysts. Minerva chir. , Dec., 51 (12): 1057-9
8. Crass R. A. and Way L. W. (1981): Acute and chronic pancreatic pseudocysts are different Am. J. Surg. 142 : 660
9. Cremer M., Deire J. & Engelholm L. (1989): Endoscopic management of cysts and pseudocysts in chronic pancreatitis. Long term follow-up after 7 years of experience. Gastrointest. Endosc. , 35: 1-9
10. Dervenis C. G. (1996): Pancreatic pseudocysts in chronic pancreatitis in : Advances in pancreatic disease , Molecular biology , Diagnosis and Treatment , Geog Thieme Verlag , Stuttgart . New York. pag : 228-231
11. Frantzides CT, Ludwig KA & Redlich PN (1994): Laparoscopic management of a pancreatic pseudocyst. J. Laparoendosc. Surg. 4:55-59
12. Froschle G., Henne - Bruns D., Kremer B. & Grimm H. (1991): Pancreatic pseudocysts and their interdisciplinary therapy. Zentralbl Chir. ; 116 (6): 359 – 68.
13. Gary C., Jeffrey C., Gerald M., David J., Donald N. & Stephen M. (1999): Endoscopic drainage of the pancreatic pseudocyst. Surgery, Oct., 126 (4): 616 - 23

14. Gooszen H.G., Schmitz R.F., Smit P.C., Schipper M.E., Van Leeuwen M.S. & Van Laarhoven C.J. (1999): Analysis and treatment of pancreatic cystic diseases. Ned. Tijdschr Geneeskd, May 1., 143 (18): 925-30
15. Grace P. A. and Williamson R. C. N. (1993) : Modern management of pancreatic pseudocysts . Br. J. Surg. ., 80: 573-581
16. Grace R. R. and Jordan P. H. (1976): Unresolved problems of pancreatic pseudocysts. Ann. Surg., 142: 660-663
17. Hagopian E.J., Teixeiral J.A., Smith M. & Steichen F.M. (2000): Pancreatic pseudocyst treated by laparoscopic Roux-en-Y cystojejunostomy. Report of a case and review of the literature. Surg. Endosc. ;14 : 967-971
18. Henricsen F.W., Hancke S. (1994): Percutaneous cystogastrostomy for chronic pancreatic pseudocyst. Br. J. Surg.; 81: 1525-1528
19. Holeczy P. and Danis J. (1998): Laparoscopic transgastric pancreatic pseudocystogastrostomy: first experience with extraluminal approach. Hepatogastroenterol. 45: 2215-2218
20. Ibrahim I M (1994): Laparoscopic cystogastrostomy. Surg. Endosc. 8 :975
21. Johnson L.B., Rattner D.W. & Warshaw A.L. (1991): The effect of size of giant pancreatic pseudocyst on the outcome of internal drainage procedures. Surg. Gynecol. Obstet. ; 173: 171 - 174
22. Kasperk R., Klever P. & Schumpelick V., (1995): Intra-operative risks and early post-operative complications in surgery of chronic pancreatitis. Zentralbl chir. ; 120 (4) :306 -10.
23. McConnell D. B., Gregory J. R., Saski T. M. & Vetto R. M. (1982): pancreatic pseudocysts. Am. J. Surg., 143: 599-601
24. Mehta A. L. and Mc Dowell D. E. (1978): Pancreatic pseudocyst as a cause of jaundice. South Med. J., 71: 1502-1506
25. Menack M. J. and Arregui M.E. (2000): Laparoscopic sonography of the biliary tree and pancreas. Surg. Clinic North Am., Aug.; 80 (4): 1151-70.
26. Moossa A R and Stabile B E (1995): The pancreas In: Essential surgical practice, third edition, Butterworth-Heinemann Ltd. Linacre House, Jordan Hill, Oxford OX28DP. , pag: 1238-1277
27. Mouiel J. & Grave F (1995): Pancreatic cyst treated by laparoscopic cystojejunal anastomosis on a Roux-en-Y loop. Surg. Endosc. 9:625
28. Nealon W. H., Townsed C. M., Thonson J. C. (1989): Preoperative endoscopic retrograde cholangio-pancreatography (E.R.C.P) in patients with pancreatic pseudocysts associated with resolving acute and chronic pancreatitis. Ann. Surg., 209: 532 - 537
29. Park A, Schwartz R (1999): Laparoscopic pancreatic surgery. Am. J. Surg. 177 :158-163
30. Petelin JB & Renner P (1994): Laparoscopic pancreatic pseudocystogastrostomy. Surg. Endosc. 8:448
31. Sharm S. S. (1995): Endoscopic cystogastrostomy: preliminary experience. Indian J. Gastroenterol. , 14: 11-12
32. Shimizu S., Morisaki T., Noshiro H., Mizumoto K., Yamaguchi K., Chijiiwa K. & Tanaka M. (2000): Laparoscopic cysto-gastrostomy for pancreatic pseudocyst. : a case report . JSLS Oct. –Dec., 4 (4): 309 –12
33. Targarona E.M., Pera M., Martinez J., Balague C. and Trias M. (1996): Laparoscopic treatment of pancreatic disorders: diagnosis and staging, palliation of cancer and treatment of pancreatic pseudocysts. Int. Surg. Jan-Mar.; 81 (1) :1-5

34. Trias M, Targarona EM, Balague, Cifuentes A. & Taura P (1995): Intraluminal stapled laparoscopic cystogastrostomy for treatment of pancreatic pseudocyst. Br. J. Surg. 82:403
35. Underwood R.A. and Soper N.J. (1999): Current status of laparoscopic surgery of the pancreas. J. Hepato-biliary pancreatic Surg.; 6 (2): 154-64 .
36. Warshaw A. L, Rattner D. W. (1990): Timing of surgical drainage for pancreatic pseudocysts: clinical and chemical criteria. Ann. Surg., 202 : 660 - 663
37. Way L.W., Legha P. & Mori T. (1994): Laparoscopic pancreatic cystogastrostomy : the first operation in the new field of intrauminal laparoscopic surgery. Surg. Endosc. ; 8 : 235 – 238
38. Yemos K., Laopodis B., Yemos J., Scouras K., Rissoti L., Lainas A., Patsalos C., Tzardis P., and Tierris E. (1999): Surgical management of pancreatic pseudocysts. Minerva chir. , Jun., 54(6): 395-402
39. Yeo C. J., Bastidas J. A., Lynch-Nyhan A., Fishman E. K., Zinner M. J. and Cameron J. L. (1990): The natural history of pancreatic pseudocysts documented by computed tomography. Surg. Gynecol. Obstet. 170: 411-417

التعامل الطبى مع ثلاث عشرة حالة من حالات الحوصلة البنكرياسية الكاذبة باستخدام أساليب متعددة

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الملخص العربى

الحوصلة البنكرياسية الكاذبة من أمراض البنكرياس المعتادة والتى تظهر بين الحين والحين وتستدعى التدخل الطبى الذى عادة ما يكون جراحيا، الا أنه فى الآونة الأخيرة أصبح من الممكن استخدام التداخلات بالمنظار أو منظار البطن الجراحى فى علاج مثل هذه الحالات. وفى هذا البحث يحاول الباحثون استخدام هذه الأساليب الجديدة المبسطة في علاج ثلاث عشرة حالة من تلك الحالات التي تم مناظرتها بقسم الجراحة العامة مستشفى أسيوط الجامعي بأسيوط ، مع مقارنة تلك الأساليب بالأسلوب الجراحي المعتاد، وقد تم تقسيم المرضى المناظرين الى ثلاث مجموعات : المجموعة الأولى من المرضى تم علاجهم باستخدام المنظار وتشمل سبعة من المرضى ، المجموعة الثانية تم علاجهم باستخدام منظار البطن الجراحى وتشمل مريض واحد ، والمجموعة الثالثة تم علاجهم باستخدام الجراحة المعتادة وتشمل خمسة من المرضى.
التداخلات المنظارية شملت تصريف الحوصلة للمعدة في ستة حالات والتصريف للاثنى عسر في حالة واحدة، أما التداخل بمنظار البطن الجراحي فكان بعمل توصيلة جراحية معوية بالحوصلة البنكرياسية لجزء اللفائفى، مقارنة بالجراحة المعتادة حيث شملت التصريف الجراحي للمعدة في أربعة حالات والتصريف للاثنى عشر في حالة واحدة.
هذا وأسفرت النتائج على أن التداخل المنظارى كان الأقل وقتا (٣٠ دقيقة) بخلاف ١١٠ دقيقة لمنظار البطن الجراحي و ١٠٥ دقيقة للجراحة المعتادة. ولم يسفر البحث عن وفيات نهائيا في أى من مجموعاته الثلاث ولكن المعدل المرضى للحالات كان ١٤ و ٤٠ % للمنظار والجراحة ترتيبيا، ولم تصادف مضاعفات لحالة منظار البطن الجراحي. وكانت مدة بقاء المريض بالمستشفى قليلة جدا للتداخل المنظارى ينوعيه حيث لا تتعدى يومين أو ثلاث مقارنة بطول المدة للتداخل الجراحى الذى يتعدى ذلك بكثير.
ويخلص البحث إلى أنه يجب وضع التداخل المنظارى وبمنظار البطن الجراحي في مصاف التداخلات العلاجية لعلاج حالات الحوصلة البنكرياسية حيث أنه آمن وبسيط ويبشر بنتائج مستقبلية مبهرة بخلاف التدخل الجراحي المعتاد.