



CLINICAL OBSERVATION

THE ENDOSCOPIC NECROSECTOMY PANCREATIC SERVING OF DIGESTIVE ENDOSCOPY HEPATO- GASTROENTEROLOGY OF CHU HASSAN II, FEZ ABOUT THREE CASES

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SUMMARY :

Transgastric endoscopic necrosectomy is a recent endoscopic surgical technique in the management of superinfected pancreatic necrosis with the advantage of causing little postoperative concern compared to conventional surgery which has been considered the gold standard in this field.

However, this innovative technique is not devoid of complications and morbidity, thus requiring efficient clinical-biological and radiological monitoring measures given the lack of experience.

Severe acute pancreatitis can be complicated by pancreatic necrosis, the major risk of which is that of superinfection, a formidable complication whose management is multidisciplinary with a considerable morbimortality.

Several international data on the subject have reported a certain number of complications occurring either during the procedure or postoperatively, mainly arterial haemorrhage, gas embolism, fistula, perforation of the colon, perforation of the peritoneum or sepsis, with a non-negligible morbidity and mortality rate.

Based on these observations, our series was interested in the subject to evaluate our practices in order to improve the management of superinfected pancreatic necrosis.

Our objective is to evaluate the prevalence of postoperative complications inherent to endoscopic pancreatic necrosectomy.

Key words: endoscopic, transgastric necrosectomy, pancreatic necrosis, postoperative complications, morbidity and mortality, prevalence.

INTRODUCTION :

Transgastric endoscopic necrosectomy is a recent endoscopic surgical technique in the management of superinfected pancreatic necrosis with the advantage of causing little postoperative concern compared to conventional surgery hitherto considered as the reference treatment in this field.

However, this innovative technique is not devoid of complications and morbidity, thus requiring efficient clinical-biological and radiological monitoring measures given the lack of experience.

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PATIENTS AND METHODS :

We report three observations involving transgastric endoscopic necrosectomy for pancreatic necrosis following an episode of severe acute pancreatitis. These patients were collected between January 2012 and October 2013 from an echo-endoscopic data registry at the Hassan II University Hospital in Fez, Morocco.

The indication for endoscopic necrosectomy was given after failure of percutaneous drainage under scannographic control, after failure of endoscopic drainage by transgastric approach and in front of clinical and radiological aggravation.

The necrosectomy technique:

- Location of the pancreatic necrosis flows by linear endoscopy and choice of the puncture site avoiding vascular interpositions
- Puncture and aspiration of the cavity using a 19 gauge needle
- Placement of a guide wire under fluoroscopic control

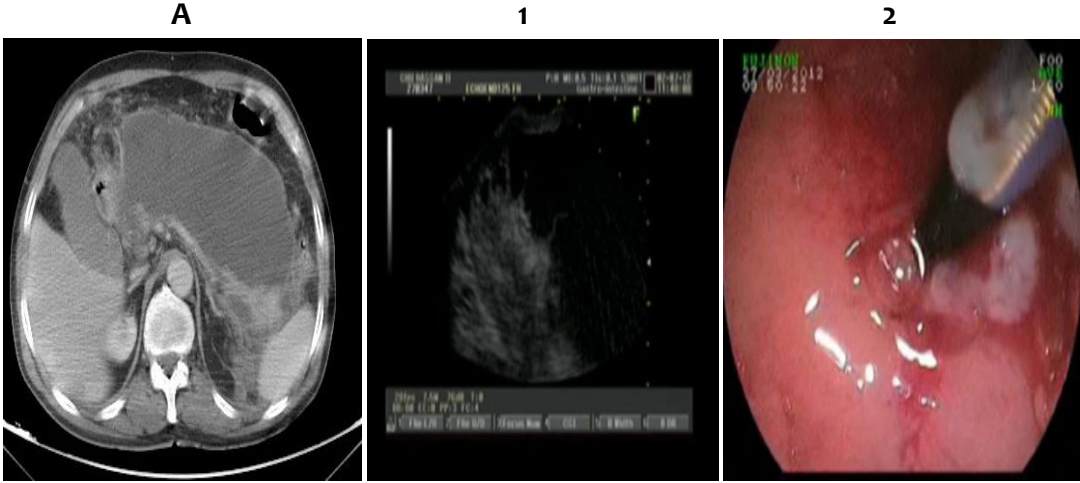
- Pneumatic dilatation with an 8 mm balloon (biliary)
 - Placement of one or more double pigtail prostheses with a nasal cystic drain to flush the cavity regularly
 - Second stage dilatation of the gastrocystic fistula with a 15 to 20 mm balloon-
- A gastroscopie is introduced into the necrotic cavity and a necrosectomy is performed using a tripod forceps, a diathermy loop or a dormia. Several sessions may be necessary
- Placement of one or more double pigtail prostheses.

RESULTATS

Observation 1: Mr E.M aged 60 years, without any notable pathological history, was admitted to the intensive care unit for the management of severe acute pancreatitis, Balthazar stage E. The evolution was marked by the sudden onset of an infectious syndrome. The CT scan showed several peritoneal collections without air bubbles, associated with portal thrombosis. A percutaneous drainage under CT scan control was performed bringing back one litre of purulent liquid whose bacteriological study was in favour of a staphylococcus aureus infection, hence the initiation of an adapted antibiotic therapy. The CT scan confirmed the ineffectiveness of external drainage. The clinico-biological and radiological worsening of the patient justified an endoscopic necrosectomy estimated at 70% through a spontaneous cysto-duodenal fistula with the insertion of two double pig prostheses. The evolution was unfavourable due to the aggravation of the septic shock state causing the death of the patient after 24 hours.

Observation 2: Mrs F.H aged 49 years with a history of acute pancreatitis stage E of balthazar complicated by a false cyst of the pancreas drained endoscopically by transgastric way with the installation of two double pig prostheses bringing back a clear liquid. The CT scan performed after the onset of an infectious syndrome showed multiple layers of peritoneal necrosis with partial thrombosis of the portal system. The fibroscopy performed showed a drain in place giving rise to pus, hence the decision to remove the drain and perform a necrosectomy after pneumatic dilatation of the gastrocystic fistula, followed by the placement of a double pig prosthesis with a nasal cystic drain which was removed afterwards. The evolution was favourable clinically, biologically and radiologically after 8 months with a decrease in the size of the peripancreatic collections but with the appearance of signs of portal hypertension secondary to the portal thrombosis.

Observation 3: Mrs M.M aged 43 years with a history of endoscopic retrograde cholangio-pancreatography(ERCP) in October 2013 for lithiasis of the main bile duct and placement of a prosthesis after extraction of the lithiasis. CT scan performed for worsening abdominal pain showed a false cyst of the pancreas. The oesogastro-duodenal fibroscopy revealed a large gastrostomy orifice, a 15 mm ulcer with a clean bottom (Forrest stage III) and a cystic cavity with necrosis and a prosthesis in place. The clinical and radiological worsening of the patient led to an endoscopic necrosectomy estimated at 30% through the kystogastrostomy orifice using a tripod forceps. The evolution was favourable with a complete remission of the patient.





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Figure 1: - Images explaining the steps involved in performing an endoscopic necrosectomy (from 1 to 8)

- Scenic image of pancreatic necrosis before (A) and after necrosectomy (B)
- Photo of endoscopically extracted pancreatic necrosis (C)

DISCUSSION

Pancreatic necrosis is infected in 40-70% of patients [1]. Current evidence in the literature favours a so-called STEP-UP approach to the management of infected pancreatic necrosis, which involves less invasive procedures at the beginning of treatment, while more aggressive interventions are used if the former fail [2].

Postoperative complications depend on the technique used but also on the skill of the surgeon, which influences the resulting morbidity and mortality.

In our series, the success rate was 100%, but in terms of complications linked to the endoscopic procedure, we deplored a mortality in one patient of a pre-existing septic nature that occurred in the twenty and four hours following the procedure.

The evolution was favourable in the two other cases without immediate or long-term complications.

In a German multicentre retrospective study by Seifert et al. involving 115 patients the success rate was 84%, three cases of death during the procedure, two of which were uncontrollable arterial haemorrhage and two patients suffering from gas embolism with one death following room air insufflation [3]. The need to recommend the use of CO2 insufflators [4].

Tan Virianne et al, in a comparative study including 21 patients treated at one centre by surgical necrosectomy (group C) and 11 patients treated at another centre by transgastric endoscopic necrosectomy (group E) found an operative mortality of 14% (n = 3) in group C and none in group E. A post-procedural complication was noted in 86% of patients in group C and 27% of patients in group E: a blocked prosthesis, prosthesis migration, and a colonic wound that did not require surgery (p = 0.002). There were significantly more pancreatic fistulas in the surgery group (p = 0.03); late complications included diabetes (19% vs. 9%), exocrine pancreatic insufficiency (19% vs. 33%) and pseudocysts (28.6% vs. 27.3%), but there was no significant statistical difference between the two groups [5]. These results are not similar to those of our series but are close to the literature.

A multicentre study carried out in the United States in 104 patients who underwent endoscopic necrosectomy with a success rate of 91.3% noted a post-bleeding complication of 14% involving minor and major haemorrhages, peritoneal perforations, fistulae, pneumoperitoneum and gas embolism with a mortality of 5.7% [6]. These figures are not superimposed on the data from our cohort but are close to the results of other studies such as: In a systematic review and meta-analysis of eight studies (n = 233) that met the inclusion criteria, Srinivas R Puli and his team found a success rate of 81.84% and the complications noted were 21.33% (95% CI 16.40% to 26.72%) which included bleeding, sepsis and perforation. Thus surgery had to be performed in 12.98% due to these complications [7]. Furthermore, the morbidity rate was not noted in this study. These results are not comparable to the data from our cohort, either in terms of the success rate of the procedure or the postoperative follow-up.

Buscail Louis and his team also noted results that were not similar to our series of ten patients and noted 3 immediate complications, one of which was bacteremia on the day of the procedure and in the other 2 cases a digestive hemorrhage treated by placing clips in one case. In addition, no late complications or mortality were recorded [8].

In another study carried out by J Escourrou and his team in Toulouse with 12 patients, the success rate was similar to that of our series but when it comes to the mortality and complication rates, the two series are not comparable because J Escourrou's team found that the haemorrhage was controlled by endoscopic clips and no deaths were noted [9].

The data from our cohort, although limited in number, can be explained on the one hand by the experience of the surgeon in interventional endoscopy avoiding certain risky procedures and on the other hand the indication and the performance of the procedure on patients prepared in optimal conditions limiting certain complications.

Several other studies on the subject throughout the world have shown variable results but overall acceptable given the disparity in numbers, the lack of training of endoscopists in this area, the lack of established consensus and the lack of hindsight in this field.

CONCLUSION

Endoscopic necrosectomy is a recent endoscopic surgical technique which appears to be effective in our series, although limited in number, with little morbidity and a reduction in the length of hospitalization and resuscitation of the patients operated on. It can therefore be proposed to medical and surgical teams for the management of necrotizing pancreatitis. Despite this progress in interventional endoscopy, its morbidity and mortality are not negligible and should be reserved for infected and uncollected necrotic flows that do not respond to intensive treatment.

It makes it possible to avoid a more morbid and deadly surgical procedure, particularly in patients in haemodynamic failure.

Conflicts of interest: no conflicts of interest.

REFERENCES BIBLIOGRAPHIQUES

[1]-Uhl W, Warshaw A, Imrie C, et al. IAP guidelines for the surgical management of acute pancreatitis. *Pancreatology*. 2002; 2:565–73.

[2]- Van Santvoort HC, Besselink MG, Bakker OJ, et al. A step-up approach or open necrosectomy for necrotizing pancreatitis. *N Engl J Med*. 2010; 362:1491–502.

[3]-Seifert H, Biermer M, Schmitt W et al. Transluminal endoscopic necrosectomy after acute pancreatitis: a multicenter study with long term followup. *Gut* 2009;58:11802

[4]- Barthet M, Ezzedine S. Transluminal Endoscopic necrosectomy for pancreatic necrosis: In all hands and for all patients or with selected endoscopists in selected patients? *Gut* 2009; 58:11802.

[5]-Tan Virianne, Charachon Antoine, Chafai Najim, Le Baleur Yann, Delchier Jean-Charles, Tiret Emmanuel, Paye Francois. La nécrosectomie pancréatique endoscopique transgastrique, une alternative à la chirurgie ?

[6]-Etude Multicentrique US: Gardner TB et al *Gastrointest Endosc* 2011 ; 573 :518-26

[7]-Nécrosectomie endoscopique transmural pour muree-off necrose pancreatique: une revue systematique et meta-analyse

Srinivas R Puli, MD, 1 James F Graumlich, MD, 2 Smitha R Pamulaparthi, MD, 1 et Nikhil Kalva, MD2

[8]- Nécrosectomie par voie endoscopique dans la prise en charge des pancréatites aiguës graves : premiers résultats d'un centre référent

Buscail Louis, Escourrou J, Andrau P, Boumet B, Moreau J.

[9]- Necrosectomie pancreatique par voie endoscopique

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