SECTION: OESOPHAGUS

010

COMPLICATIONS OF VIDEOLAPAROSCOPIC FUNDOPLICATION

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Background

Videolaparoscopic fundoplication is a routine minimally invasive operation today. Performed by an experienced surgeon, it is a quite simple procedure. However, serious complications can occur. These complications require subsequent surgical intervention.

Patients and Methods

521 videolaparoscopic fundoplications were performed at The 1st Dep. of Surgery in period 1994–2002. Altogether 13 patients were re-operated for early or late complications. In addition, 3 patients, who had been operated primarily at another hospital, were re-operated at the department.
The most frequent indication for re-operation was dislocation of the cuff transhiatally to the mediastinum or aborally to the corpus of the stomach (8 cases), an overconstriction of the diaphragmatic hiatus with dysphagia (3 cases) and non-standard primary procedure (1 case). Two patients were re-operated for haemoperitoneum on the first postoperative day, caused by bleeding from the incision after removal of the port.

Results

In case of dislocation of the cuff to the mediastinum, a reposition back under the diaphragm was performed in two patients, followed with reduction of the hiatus and fixation of the cuff, mostly to the right diaphragmatic crus. In two patients it was necessary to release the cuff and to perform re-fundoplication, hiatoplasty and fixation of the cuff through laparotomy. If the cuff was dislocated aborally to the corpus of the stomach (in 4 patients), it was always released and re-fundoplication followed (3times through laparotomy, once videolaparoscopically). In case of compression of the esophagus in the diaphragmatic hiatus (3), the hiatus was always released by means of removal of one stitch of the hiatoplasty or cutting of the crus. Aftereffects of one non-standard primary procedure, which had been performed at another hospital, were reversed and a routine fundoplication was performed. In cases of bleeding from the incision, a simple stitch was necessary to close the bleeding artery.

Conclusion

Videolaparoscopic fundoplication should be performed by a surgeon, who is experienced not only in minimally invasive surgery, but also in classical surgery of the esophagus. The surgeon has to solve all the immediate complications, regardless whether this is via an open approach or videolaparoscopically. Managing late complications after videolaparoscopic fundoplications should be performed in specialized centres by surgeons, who are maximally experienced in such procedures.

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011

PARAESOPHAGEAL HERNIA – SURGICAL MANAGEMENT

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Introduction

There are four different types of hernia present in the region of the esophageal hiatus. Type I, known as a sliding hiatal hernia. Type II, known as paraesophageal hiatal hernia. In this type of hernia, the phrenoesophageal ligament remains firm; therefore the gastroesophageal junction lies at or near its normal location. The fundus of the stomach protrudes through the weak part of phrenicoesophageal membrane into the chest and gradually obtains a higher and higher position within the chest. In extreme case the fundus followed by the antrum ascends into the chest, leaving the cardia and pylorus behind. This produces the mechanical affect of obstruction at diaphragm level, also known as “upside-down stomach”. Type III of the hiatal hernia is a combination of types I and II; and type IV is presented with complete weakening of esophageal hiatus.

Patients and Methods

In the period from 1st January 1991 until 31st December 2002 a group of 10 patients with paraesophageal hernia were treated in our clinic. Five men and five women with an average age of 60,4 years, the oldest patient was 85. All patients were symptomatic, most of them presented with epigastric pain and a feeling of fullness. One patient presented with massive bleeding. Four patients had an “upside-down” stomach. All patients were treated with an abdominal incision. After stomach reposition we reconstructed the hiatus and diaphragm. In one case we performed gastropexis. Two complications occurred during operation, perforation of the esophagus in one patient and spleen injury during reposition of the hernial sac in the other, in which case we performed splenectomy. One patient underwent urgent surgery because of profuse bleeding from ulceration. We performed stomach resection (Bilroth I), reconstruction of the esophageal hiatus and cholecystectomy.

Results

All patients had excellent early postoperative results, without postoperative complications. Long-term results showed no complaints related to operation or former disease.

Conclusion

The indication for surgical correction is the symptomatic paraesophageal hernia. Antireflux operation should be done if the patient has symptoms of GER. There still remains a question of the operative approach – laparotomy vs thoracotomy. One of the most recent

advances in antireflux surgery is the introduction of laparoscopic repair.

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012

ARE ENDOSCOPY NEGATIVE AND ENDOSCOPY POSITIVE GASTROESOPHAGEAL REFLUX DISEASES DIFFERENT? RESULTS OF ESOPHAGEAL PH-METRIES AND MANOMETRIES IN PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE

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Background and Aim

The spectrum of esophageal manometric abnormalities may differ in patients with endoscopy negative (NERD) and endoscopy positive (ERD) gastroesophageal reflux disease. The aim of the study was to investigate differences between patients with NERD and ERD with respect to acid exposure time and manometric findings.

Methods

We prospectively evaluated 24-hour esophageal pH-metries and stationary esophageal manometries of 262 consecutive patients referred to our laboratory. All data represent medians with 5–95 centiles.

Results

Among the 262 patients, 76 had normal and 176 abnormal (DeMeester score above 14.7) pH-metry recording. Among the 176 patients with abnormal pH-metry, 91 had NERD and 85 had ERD. Fifteen subjects had severe esophagitis (grade III or IV). Percentage of time with pH < 4 and DeMeester score did not differ between patients with NERD- 8.6 % (3.5–45); 34 (15.8–182) and ERD – 8.8 % (3.3–49); 33 (15–164). Basal lower esophageal sphincter (LES) pressure was 14.3 mmHg (4–37) in normal subjects, 11.2 mmHg (1.1–30) in patients with NERD and 9.7 mmHg (0–26) in patients with ERD ($p<0.04$ for ERD and NERD vs. normal, ERD vs. NERD NS). Among normal subjects, 53 % had normal LES basal pressure compare to 37 % and 32 % of patients with NERD and ERD, respectively ($p < 0.001$ vs. normal, NERD vs. ERD NS). LES basal pressure was normal in only 7 % of patients with severe ERD. Ineffective esophageal motility was observed in 42 % of normal subjects, in 46 % of patients with NERD, in 62 % of subjects with ERD and in 73 % of subjects with severe ERD (normal vs. NERD NS, $p < 0.03$ normal and NERD vs. ERD).

Conclusion

1. Esophageal motor abnormalities are quite common in subjects without gastroesophageal reflux disease. 2. Patients with NERD and ERD have similar acid exposure time. 3. Ineffective esophageal motility is more common in patients with ERD than in patients with NERD. This might be responsible for development of esophagitis in some subjects. 4. With respect to basal LES pressure, there is no difference between patients with NERD and mild to moderate ERD.

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013

INJECTION OF BOTULINUM TOXIN (BT) FROM DIRECT VIEW OR FROM BOTH DIRECT AND RETROFLEXED VIEWS? A RANDOMIZED, DOUBLE-BLIND STUDY IN PATIENTS WITH ACHALASIA

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Background and Aims

BT injection is an alternative treatment for achalasia. It has been suggested that standard BT injection from the antegrade view only may not result in adequate lower esophageal sphincter (LES) infiltration by toxin and that the modified injection technique combining BT injection from both antegrade and retroflexed views might be better. The aim of the study was to compare the standard BT injection with the modified administration technique.

Methods

A total of 35 achalasia patients were included in a randomized, double blind study. In 18 patients, BT was administered from the antegrade view only (group A). In 17 patients, BT was administered using the modified technique (from both antegrade and retroflexed views; group B). In both groups, 250 IU of Dysport (Beaufor Ipsen, France) was diluted in 4 ml of normal saline. Patients in the group A, aliquots of 1 ml were injected into four quadrants of the LES from the antegrade view. In the group B, aliquots of 0.5 ml were injected into four quadrants of the LES from the retroflexed view and then from the antegrade view. The endoscopist was unaware of both the randomization and follow-up of the patients. We evaluated the symptomatic response and manometric findings.

Results

The mean age was 51.9 years (range 24–78). There were 18 women and 17 men. The patients were followed up for a median of 13 months (1–18). In the group A, all but one patient reported prompt symptomatic improvement. In the group B, all patients reported prompt symptomatic improvement. In the group A, 7 (41.2 %) patients experienced a relapse over a median of 11 (6–15) months. Ten patients (58.8 %) remained asymptomatic over a median of 12 (1–18) months. In the group B, 5 patients (29.4 %) reported a relapse over a median of 10 (4–15) months. Twelve patients (70.6 %) remained asymptomatic over a median of 12 (1–17) months. The differences between groups A and B were not significant. There were non-significant trends for decreased basal LES pressure 6 months after the injection in both groups (group A: before 34.2 ± 17 mmHg, after 29.2 ± 10.6 mmHg, $p = 0.3$; group B: before 35.4 ± 17 mmHg, after 28.6 ± 9.8 mmHg, $p = 0.2$).

Conclusion

The modified BT administration technique combining injection from both antegrade and retroflexed views is as effective as the standard BT injection from the antegrade view. The BT injection from the retroflexed view can be used in patients where it is technically difficult to inject BT from the antegrade view.

014

VIDEOLAPAROSCOPIC TRANSHIATAL RESECTION OF EPIPHRENIC DIVERTICULUM

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Background

Experience in videolaparoscopic operations for hiatus hernia and achalasia, which have almost replaced classical procedures, enabled other interventions in the distal third of the thoracic esophagus. Thus, it caused a progress in treatment of the epiphrenic diverticulum using minimally invasive approach.

Patients and Method

The authors report their experience in videolaparoscopic diverticulum resection. They performed the procedure in 3 patients; all of them were old males with ventilation limitation and history of a chest intervention. The procedure included myotomy and an antireflux procedure.

Results

The operations and postoperative periods were without any significant complication. The only complication was a minor leak in the first patient detected by means of X-ray passage examination; the leak was successfully managed conservatively.

Conclusion

The authors conclude the method as a possible alternative to the standard classical left-side thoracotomy approach. It can be beneficial for patients, when a possibility of performing a classical operation is limited.

015

ACID REFLUX CHARACTERISTICS AND ESOPHAGEAL PEPTIC INJURY IN PATIENTS WITH GERD.

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Introduction

Pathologic gastroesophageal reflux (GER) is an important pathogenic factor in esophageal mucus membrane injury. Typical endoscopic finding in patients with pathologic GER is reflux esophagitis (RE). The goal of the study was to examine correlation of selected acid reflux parameters and reflux esophagitis.

Methods

93 patients (46 males, 47 females, age 18–75 years) with symptomatic GERD were examined by endoscopy and esophageal ambulatory 24-hour pH-metry. We evaluated endoscopic findings (degree of RE according to LA classification) and acid GER parameters – number of reflux episodes (NREP), NREP longer than 5 minutes (NREP5), longest reflux episode duration (REPLONG), DeMeester score (DM), fraction times of pH less than 4-upright, supine, and total (V4UP, V4SUP, V4TOT). Results were statistically tested by nonparametric non-pair analyses (Kolmogorov-Smirnov test, Kruskal-Wallis analysis) to determine the correlation of acid GER parameters and reflux esophagitis.

Results

The degree of RE correlates with all above mentioned acid GER parameters ($p < 0.001$). There are significant differences between both sexes in DM, NREP5, REPLONG, V4TOT, V4SUP, which are all higher in male patients ($p < 0.05$). In the case of RE LA-A, B, it is possible to predict severity of the mucus membrane injury according to obtained pH metry data by DM ($p < 0.02$), NOREP ($p < 0.05$), NOREP5 ($p < 0.02$), V4TOT ($p < 0.02$). In the case of more severe form of RE (LA-C, D) we found no statistically significant differences in acid reflux parameters ($p > 0.05$).

Conclusion

We confirm that esophageal injury is dependent on all examined acid GER parameters ($p < 0.001$). DM, NOREP, NOREP5 and V4TOT can predict degree of mild esophageal injury (LA-A,B) ($p < 0.05$). We did not find any statistically significant differences in pH-metric parameters allowing us to predict esophageal mucus membrane injury in more severe RE (LA-C,D) ($p > 0.05$). It means that there are more factors participating in severe esophageal mucus membrane injury, which we did not account for by simple ambulatory 24-hour pH-metry (bile reflux, mucus membrane protective mechanisms).

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016

THE USE OF BOTULINUM TOXIN IN TREATMENT OF UPPER ESOPHAGEAL SPHINCTER SPASM

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Introduction

Botulin toxin is used in treatment of pathologic muscle spasms in many branches of medicine. It is used in neurology, ophthalmology, otorhinolaryngology and gastroenterology.
In gastroenterology it is mainly applied in treatment of achalasia and anal fissure.

In our case we used Botulinum toxin in treatment of spasm of upper esophageal sphincter.

Case Report

A 59 y old man, who has been treated for schizophrenia, was examined for dysphagia that lasted for one year. The state of Dysphagia was getting worse, problems with malnutrition appeared in the patient.
When preparing the patient for X-ray by swallowing baryum, it was suspected that spasm of upper esophageal sphincter occurs. Manometry was performed and a hypotonic lower esophageal sphincter and strong hypertonus of upper esophageal sphincter, with defects of relaxation were found.
Patient was admitted to otorhinolaryngology and myotomy was planned. It was decided to treat him by Botulinum toxin application and the patient was admitted to our department.
We provided esophagogastroscopy and applied 500 U of Dysport in 8 aliquots. The following day patient felt much better and was discharged.
Stationary esophageal manometry was performed 4 weeks after BT injection. It showed major decrease in upper esophageal sphincter pressure.

Conclusion

Treatment of achalasia by Botulinum toxin is common. The use of Botulinum toxin in treatment of pylorospasm has been described in the literature. The use of Botulinum toxin in spasm of upper esophageal sphincter is rare and as far as we know, it has not been reported yet. This treatment was in our case very effective and much easier on the patient than surgery.

017

LAPAROSCOPIC NATIREFLUX NISSEN-ROSSETI PROCEDURE FOR GASTROESOPHAGEAL REFLUX DISEASE – FIVE-YEAR RESULTS

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Introduction

We evaluated quality of life of patients with GERD and hiatal hernias before and five years after Nissen-Rossetti laparoscopic antireflux procedure. We used GIQLI test by Eypasch.

Methods

140 patients filled in the GIQLI test before their operation in 1997. We sent them the identical test five years after the operation. 112 filled-in tests returned, 16 patients changed addresses and 12 did not replay. We compared the pre- and postoperative tests with one hundred consecutive patients.

Results

Feeling of full stomach is not significantly better, feeling inflate is not significantly worse, belching and vomiting are significantly better, necessity of slowly eating and occurrence of dysfagia are in the same extent, occurrence of chest pain, hoarseness and cough are without changes, 99 % patients have not regurgitation, 96 % do not know pyrosis.

As antireflux medication took one patient omeprazol every day, two patients two times per week and one patient Maalox in case of need. Three patients took procinetics against dysfagia and seven patients used stomach drugs because of different indications: feeling full stomach, by large other medications, as postoperative medication after resection of pancreas.
The GIQL Index is in health population 84 %, the GIQL Index by patients with GERD is 70 %
The GIQL Index five years after operation is 83.6 %
Exitus is 0, conversions three times, re-operations two times for paraesophagel hernia, two times for hernia in cicatricae.

Conclusion

Laparoscopic antireflux Nissen – Rossetti procedure has a continuously favourable effect on reflux symptoms and it has low number of side effects. The quality index of life five years after operation is close to the index of healthy population.

018

POSSIBILITY OF ESOPHAGEALJEJUNOANAS TOMOSIS' LEAK TREATMENT AFTER TOTAL GASTRECTOMY

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Key words: Total gastrectomy / Leak of the esophagealjejunoanastomosis / Endoscopy > Selfexpandible stent

Leak of esophageal anastomosis is the most serious complication with a high morbidity and mortality. The number of these complications has decreased over the past few years, however they already had been presented. The treatment is very difficult indeed.
In our presentation we want to demonstrate one of the possibilities for treating these complications. This represents a timely leading of the selfexpandible esophageal stent over the leaky anastomosis under the endoscopic view. There is a relatively non-invasive and safe method, which replaces the frequently complicated and risky operation.

019

THE COMPLICATIONS OF LAPAROSCOPIC PROCEDURE IN THE TREATMENT OF GASTROESOPHAGEAL REFLUX

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Fundoplication is considered the "gold basis" in surgical treatment of gastroesophageal reflux. In compliance with E.A.E.S. agreement the laparoscopic approach is the first alternative without any doubts. The procedure is fundamentally the same, but there is much more comfort for the patient. Nevertheless, the laparoscopic procedure has progressed and some principles must be observed. Otherwise, the number of postoperative complications raises and their treatment is difficult no matter whether we choose the miniinvasive intervention or traditional open surgery. The author evaluates a set of patients over the past ten years and comments upon individual complications and also strives to point out possible solutions.

020

INTRAOPERATIVE MANOMETRY AND ENDOSCOPY DURING LAPAROSCOPIC MYOTOMY FOR ACHALASIA

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Key words: Achalasia / Intraoperative manometry / Myotomy / Laparoscopy / Intraoperative endoscopy

Introduction

Authors present the initial experience with intraoperative esophageal manometry during laparoscopic myotomy. The manometry and endoscopy can evaluate the completeness of myotomy of LES.

Methods

A stationary pull-through four channel water-perfused manometry is performed before the constitution of pneumoperitoneum for identification and pressure evaluation of LES (length, resting pressure) and immediately after the laparoscopic myotomy (following deflation of gas) in order to evaluate the effect of myotomy. An esophagoscopic control of mucosal integrity is performed following the manometry (after myotomy).

Results

During 2002/2003 four patients were operated for the esophagocardial achalasia where intraoperative manometry was used for localisation of LES and evaluation of myotomy completeness. Intraoperative manometry demonstrated depression of the resting pressure of LES following the myotomy to 47 % (mean preoperative resting pressure was 42.06 mmHg, mean postoperative resting pressure was 20.03 mmHg). In one patient intraoperative manometry identified incomplete myotomy and resulted to the extension of myotomy during surgery. Operating times were 60 to 90 minutes (mean 70 min). All patients were without clinical problems during follow-up.

Conclusion

Based on this preliminary experience, the intraoperative diagnostics (esophageal manometry, esophagoscopy) are helpful methods that can evaluate completeness of myotomy and allow to perform limited myotomy for free oesophageal passage with sufficient resistance to postoperative reflux without addition fundoplasty. These methods are safe and do not significantly prolong operating time.

021

DOUBLE-PROBE STAGE ESOPHAGEAL PH-STUDY IN DIAGNOSIS OF EXTRAESOPHAGEAL COMPLICATIONS OF GASTROESOPHAGEAL REFLUX

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Key words: Gastroesophageal reflux / Laryngitis posterior / pH study

Introduction

Reflux laryngitis and some other otolaryngological (ENT) symptoms can be associated with GERD. 24-hour pH monitoring of GER helps in identification of these patients and in assessment of effective treatment.

Methods

Double-probe stage esophageal pH-monitoring may be the optimal method to evaluate patients with esophagopharyngeal reflux (EPR). Our algorithm is based on ENT examination including laryngoscopy, barium swallow, esophagoscopy, 24-hours dual probe pH-study and occasionally manometry. Laryngoscopically proved laryngitis or other throat findings with upper GI symptoms history are input attributes for further evaluation. PH-study using Digitrapper Mk III with dual probe in lower and upper esophageal position is the final step. Presence of the upper esophageal reflux is evaluated. Nowadays, effectiveness of acid suppression therapy and presence of anatomically-morfological basis of findings (hiatal hernia, lower esophageal sphincter incompetence, impaired esophageal motility, transient lower esophageal relaxation) are evaluated as well. Operation is recommended in case of hiatal hernia with EPR with effective medical therapy (fundoplication) and in case of duodenogastroesophagopharyngeal reflux DGEPR (diversion surgery).

Results

During 1999–2003 24 patients with ENT symptoms and upper GI symptoms were evaluated. 22 patients underwent pH-study (single channel in 8–4 positive, dual probe in 14–12 positive). In 14 patients we have proved a role of GER in ENR symptoms occurrence. Two patients underwent diversion surgery for DGEPR with excellent results; two patients underwent laparoscopic fundoplication with very good results. Two patients refused the recommended fundoplication. Ten patients received medical antireflux and procinetic therapy with satisfactory results evidenced in seven, in two the outcomes were not completely satisfactory, and one was re-examined in ENR department and later operated on with vocal cord. The final result was very good in this case.

Conclusion

GER plays important role in the ethiology of many otolaryngologic disorders. PH-study is effective diagnostic method in evaluation of GER in these patients.

Abbreviations. GERD – Gastroesophageal Reflux Disease, GER – Gastroesophageal Reflux, GI – Gastrointestinal.

022

CYTOKERATIN EXPRESSION IN BARRETT'S OESOPHAGUS: A KEY TO HISTOGENETIC BACKGROUND?

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Introduction

Barrett's oesophagus (BO) has been a "hot" topic in recent gastroenterology. There are at least two reasons for this intensive interest in BO. One is the mystery of the appearance of intestinal metaplasia just in the distal oesophagus, and the origin of this metaplastic epithelium. The second, more practical, reason is that patients with BO have a higher risk of developing adenocarcinomas. The aim of the present study was to (1) characterize more precisely the distribution of expression of cytokeratin subsets in different cell types present in oesophageal, gastric and Barrett's mucosa (BM) and (2) determine cytokeratin expression in the cell phenotypes showing various degrees of differentiation.

Methods

Ten cases of adult patients with BO were selected from the routine bioptic material. In nine of these patients, samples of gastric mucosa were also separately investigated. Paraffin-embedded parallel tissue sections were stained with hematoxylin-eosin, Alcian blue (AB) and Periodic acid–Schiff (PAS). Immunostaining was performed on five-micron-thick tissue sections mounted on pre-coated slides, deparaffinized in xylene and hydrated in graded alcohol. A wide spectrum of cytokeratins CK7, CK10, CK19, CK20, CK116, CKHW and CKAE1/AE3 was detected. The stained slides were evaluated semi-quantitatively, according to the quantity and distribution of positive cells in each section, using an optical microscope Nikon ECLIPSE E 400.

Results

In all ten cases of BO, foci of squamous epithelium, either with or without mild inflammatory infiltration, were found. BM was characterised by the presence of goblet cells, positive in AB staining. Apart from typical mature goblet cells, less differentiated goblet-like cells with larger predominantly oval nuclei, smaller mucin-containing, AB-positive vacuoles and more basophilic cytoplasm were observed. Other epithelial cells, such as polarised non-goblet columnar cells, less differentiated columnar cells with larger nuclei and basophilic cytoplasm, and even undifferentiated cuboidal cells were also identified within the BM. Immunohistological staining showed that squamous epithelium of oesophageal mucosa was strongly positive for a larger spectrum of cytokeratins (CKHW, CK116, CKAE1/AE3). Negative-to-weak immunostaining for CK7 and negative immunoreactivity for CK20 were found in this type of epithelium. In BM, irregular distribution and intensity of cytokeratin expression was found. Cytokeratin immunoreactivity of epithelial cells appearing in the BM was especially dependent on the degree of differentiation of these cells. Less differentiated cells revealed positive staining for CK7 and CK10, such as the cells of the necks of gastric mucosa and the ducts of oesophageal glands. On the contrary, differentiated goblet cells showed only weak or negative immunoreactivity for CK7 and CK10. CK20 was positive predominantly in superficial parts of BM. Immunostaining with antibodies detecting a larger spectrum of cytokeratins (CK116, CKAE1/AE3) revealed prominent irregularities in the distribution as well as in the intensity of immunoreaction. High intensity of immunostaining with these antibodies was found especially in glandular structures located in the deeper part of BM, containing less differentiated cells, morphologically more basophilic, and with larger nuclei, and in immature goblet cells. BM showed only weak positive staining for high-molecular- weight keratins.

Conclusion

Our results indicate that the mode and intensity of cytokeratin immunoreactivity depends not only on the localisation of metaplastic epithelium (oesophagus vs. stomach), and on the compartment of mucosa (upper vs. basal), but also on the degree of differentiation of individual cells forming the metaplastic area. Irregular and focal (or patchy) appearance of immunostaining of the majority of cytokeratins within the BM can be explained not only by disregulation of cell differentiation, but also by deranged migration of differentiating cells. The distribution of positive areas and their shifts from the basal area to the upper compartment of BM suggests this possibility. The spectrum of cytokeratin expression within the BM supports the theory favouring the submucosal oesophageal gland ducts epithelium as a possible source of stem cells of "classical" BM.

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023

LAPAROSCOPIC FUNDOPLICATIONS – MY EXPERIENCES AND COMPLICATIONS

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Introduction

We operated on 210 patients with a diagnosis of GERD from 1997–2003. Patients were recomended for operation by gastroenterologists and endoscopic surgeons.

Results

This study included 210 patients with GERD aged 12–75 years (average age 43 years). All were laparoscopic fundoplications operated. Procedure-related complications occured in one patient (0.47 %) – small bowel perforation. Procedure-related reoperations

were performed in seven patients (3.3%) (one patient for bleeding and six patients for disruption of the hiatoplastic and/or fundoplication valve). Reoperation for bleeding was performed by laparotomy within 6 hours after operation. The last six patients were reoperated laparoscopicaly.
From the six reoperated patients there was one perforation of the stomach near the esophagogastric junction – this perforation was iatrogenic during the preparation of retrogastric space and was treated laparoscopically using an endostapler. This sutured line was then covered by fundoplication valve. One patient had a pericardial perforation – we used laparoscopic suturing without conversion. One patient suffered from a small bowel perforation with trocar because of 2 former laparotomies and fixation of the bowel loop on the anterior abdominal wall. However, we had another 5 iatrogenic pneumothorax, 4 of them during laparoscopic reopartion procedures. All were treated peroperative laparoscopically by suture with absorbable material and 2 by using thorax drainage. Two patients had the postoperative valve stenosis treated endoscopically with balloon dilatation. Seven patients had clinic problems after the first operation, with endoscopic and radiodiagnostic verification of hiatoplastic rupture or rupture of fundoplication valve, followed by laparoscopic reoperation in all patients.

Table 1. Results of 210 patients – 1 laparoscopic surgeon

Patients	Number	Age	With CHCE	Complications
	210	12–75 y.	41 (19.5%)	11 (5.2%)

Operation duration time was in the beginning 2–3 hours, at the present most operations are completed within 30–45 minutes. Duration of hospitalisation was longer in the beginning and decreased with increasing experience (5–6 versus 2–3 days).

Table 2. Results of 210 patients – 1 laparoscopic surgeon

Conversion	Reoperation	OP-time complet	OP-time today	Hospitalisation complet today	
1 (0.47%)	7 (3.3%)	25–200 min	25–45 min	1–8 days	1–2 days

Conclusion

Our results are comparable with literature references. Laparoscopic fundoplication and hiatoplasty is an acceptable therapy in GERD patients.

024

PALLIATIVE TREATMENT OF ESOPHAGEAL TUMORS BY APC (ARGON-PLASMA COAGULATION) AND STENTING

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Argon plasma coagulation is a very well accepted method of non-contact electrocoagulation in which the high-frequency current is applied to a tissue by means of ionised argon gas.
Indications for APC treatment are benign and malignant tumors, bleeding from tumor or other bleeding lesions, endoluminal progression (overgrowth) after stenting, angiodysplasio, ...
From 1998 to 2003 63 patients were treated endoscopically with APC. Indication for APC in 31 cases was subtotal malignant esophageal stenosis or benign disease of upper GI tract and in 32 cases stenosing low rectal tumour.
In the esophageal group were 29 patients with malignant stenosis of the esophagus. 1 to 12 sessions was performed with duration of 5 to 15 minutes, and an intensity of 60 to 80 W. In these patients the median follow up in esophageal group was 5 months.
In 11 patients I placed a self-expanding esophageal stent – ELLA Z-stent. All patients but two had APC recanalisation before stenting (1 to 7 sessions). I have 2x procedures – related complications – dislocation of the stent to stomach.
In all cases APC recanalisation and stenting was highly effective. Quality of life clearly improved.

025

TUMOROUS OESOPHAGEAL STENOSES – OUR EXPERIENCE WITH INTRALUMENAL 192 IR HDR BRACHYTHERAPY ON DYSFAGIA

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Introduction

At the St. Elizabeth Oncology Institute in Bratislava we performed intraluminal brachytherapy in 55 patients with the diagnosis of esophageal cancer, in the period from December 1992 till December 2002. All patients were contraindicated for surgery because of their age, medical state and/or advanced tumor. The histology was epidermoid carcinoma in 38 cases, adenocarcinoma in 14 cases and other in 3 cases. 47 patients were men and 8 were women. The obstruction was localized in various parts of esophagus. Most of the patients (45) were in the stage IV. All patients suffered from dysphagia.

Methods

External radiotherapy was performed in 49 cases with doses 30–60 Gy. Brachytherapy was performed using 192 Ir HDR micro-Selectron. We used three fractions in 14 days interval, 7 Gy (fraction) 1 cm of the source axis.

Results

This is the analysis of results from HDR brachytherapy plus/minus external beam radiotherapy focused on dysphagia. In 86% of patients dysphagia caused by malignant obstruction of oesophagus improved. Patients were then able to eat for the rest of their lives. In 14% of the patients we had to perform either gastrostomy or stent. Serious complications occurred in two cases – perforation to mediastinum.

Conclusion

High dose rate intralumenal brachytherapy is a very good treatment method because dysphagia in malignant esophageal stenosis is accompanied by minimum complications and proves very good patient toleration.

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026

ALTERNATIVES IN TREATMENT OF ZENKER DIVERTICULUM IN THE ELDERLY

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Background

Zenker diverticulum is a typical disease of the elderly. It is a functional disorder caused by hypertrophy of the transversal part of m. cricopharyngeus that increases pressure in the oral oesophagus and prolapse of its mucous membrane. The only causal treatment is surgery consisting of resection of the diverticulum and myotomy of m. cricopharyngeus. This procedure is not very difficult. However, current trend of minimally invasive surgery demanded development of a method to reduce the risk of complication particularly in the elderly persons who are the typical patients suffering from this disease. Minimally invasive methods are based on cutting of the septum between the diverticulum and the oesophagus via the transoral approach using a laser or stapler with a cutter. This method can significantly shorten the procedure compare to the classical method and can reduce the postoperative complication rate caused by wound infection.

Patients and Methods

Transoral diverticulo-esophagostomy constructed using endoscopical stapler was performed in three elderly patients at the 1st Department of Surgery, Palacký University University Hospital Olomouc during the period 1998–2002. All of the patients were males with a high operation risk. The procedures were performed under X-ray and endoscopical control.

Results

All procedures were performed without any complications and the patients were discharged within few days after the x-ray check-up. They had neither complication in relation to the performed procedure during the follow-up, nor troubles caused by enlargement of remnants of the diverticulum.

Conclusion

The minimally invasive procedure can be beneficial for elderly patients with a high operation risk of the classical approach. Long-term effect of the procedure must be checked in a larger group of patients.

027

THE FIRST EXPERIENCE IN SENTINEL NODE IDENTIFICATION TECHNIQUES IN CARCINOMA OF THE DISTAL ESOPHAGUS AND GASTRIC CARDIA

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Background

The recent neoadjuvant therapy in esophageal cancer and adjuvant therapy in gastric cancer have an expressive effect on some stages of the disease. Tumor of the esophagus can frequently regress or disappear. This temporary phenomenon demands removal of the esophagus in an optimum interval after ending the radio-chemotherapy, although subsequent recurrence is not excluded. The only method to set the N stage of the tumor is histological examination of removed lymph nodes, but this cannot be performed before the neoadjuvant treatment. A promising solution seems to be the identification and removal of the sentinel lymph node (SLN). Its status should predict effects on subsequent levels of lymph nodes.

Patients and Methods

The study was performed on patients examined and indicated for neoadjuvant therapy for cancer of the esophagus and gastric cardia at The 1st Department, of Surgery, Palacký University, University Hospital, Olomouc. Identification of SLN was performed by application of a patent blue dye to the peritumoral submucous layer via endoscopy before the procedure. SLN was then identified according to the blue dye presence and removed via videolaparoscopic approach. Removed SLNs were examined by classical histopathologic examination: the negative ones were examined for micrometastases by detecting cytokeratine.

Results

SLN was identified in 78 % of the examined patients and found positive in 22 % of the patients. The number of dyed nodes varied from 1 to 7 nodes.

Conclusion

The technique of identification of SLN seems to have a potential to improve staging of patients with cancer of the esophagus and gastric cardia. It needs a larger group of patients to study the reliability of the technique and to solve some technical tasks

028

A RARE COMPLICATION OF PARAESOPHAGEAL HERNIA

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Key words: Complications / Paraesophageal hernia / Pneumopericardium

Introduction

The article presents a rare complication in a patient suffering from paraesophageal hernia.

Interventions

The patient was operated on for extensive paraesophageal hernia with the presence of stomach fundus and spleen in the left part of the chest cavity. There was pathological communication of the stomach fundus and pericardium due to the diaphragm relaxation on the left and pneumopericardium. The intervention included communication liberation, stomach defect suture, splenectomy, thorax drainage, left diaphragm dome drainage, as well as drainage in the area of stomach fundus defect closure. The hole in the pericardium was left opened, the drain was taken out in the front periphery of pericardial base. After the surgery the state was complicated with embolism in arteria pulmonalis. On the 31st day after the intervention there was a heart failure accompanied with atria fibrillations, the right branch of Tawar's nerve got blocked, and ventricle extrasystols appeared. Cardioversion proved unsuccessful. A section revealed there was pericarditis with numerous concretions.

Discussion

We presented the case of a rare complication of paraesophageal hernia. A similar case was not reported in the literature, published studies or case reports. The complications were due to a non-treated paraesophageal hernia and stomach ulceration. Though the intervention was successful, the patient died on the 31st day after the surgery of a heart failure that was the consequence of diffused pyogenic pericarditis and dispersed concretions in the front and lateral walls of the left ventricle.

Conclusion

The main cause of death was not timely recognized pericarditis and concretions after the surgery followed by a heart failure.

029

SCLEROTHERAPY IS EFFECTIVE IN THE LONG-TERM TREATMENT OF ESOPHAGEAL ACHALASIA

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Introduction

The current treatment of achalasia is palliative and is based on reducing the lower esophageal sphincter.
Aim of this study was to describe this new promising technique and to assess its long-term efficacy and safety.

Methods

We prospectively treated 14 achalasia patients by intrasphincteric injection of 1 % polidocanol at the cardiac level. The patients were graded pre- and post-treatment. They were evaluated clinically, radiologically and endoscopically and monitored for a mean of 36 months.

Results

The immediate relief of dysphagia was excellent or good in 14 cases (100 %) and the long-term outcome was good in 11 cases (78 %). There were no severe complications. None of the patients who were monitored had to undergo surgery because of treatment failure.

Conclusion

Endoscopic injection of polidocanol is very effective and safe in the long-term treatment of achalasia. It is comparable to other techniques (dilation, botulinum toxin).

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