Summary: Stercoral peritonitis (fecal peritonitis) as the gravest contamination of the abdominal cavity remains still very severe event followed by high morbidity and mortality rate. The most common origin of perforation is diverticular disease and colorectal tumor, other origins are accidental. The treatment consists of surgery and intensive medical care. Successfull can be only resectional surgery, when a septic source is taken away, contamination is stopped and a belly is cleared. The problem is a low ability of critically ill patient to under- go an operation. The usage of peritonitis severity and general condition classifications can help with decision about surgical procedure and can influence a treatment strategy. The issue gives a review about some aspects of a stercoral peritonitis. AuthorDs work-place experience based on the treatment of 13 patients with stercoral peritonitis during a period of 15 years is shortly presented. Key words: Stercoral peritonitis - origin - classification - surgery - prognosis.
Peritonitis make very melancholic reading", documenting this of the carcinoma of the colon complicated by perforation and J.C.Goligher wrote more than thirty years ago that "treatment of the abdomen cavity remains still very severe of event followed by high morbidity and mortality rate. The urgent laparotomy and surgical treatment of the site of perforation as well as cleaning of belly represent also nowadays the main surgical principle. The availability of very intensive perioperative care and other medical progress involved this entity as well and improved the results. Stercoral peritonitis is a rare condition of various origin and different gravity, leaving several possibilities for surgeon decision depending on the conditions found to be present. That is the reason for making some review about causes, classification, surgical and general treatment and nowadays results.

**The origin of large intestine perforation**

Colonic carcinoma is one of common causes of stercoral peritonitis. There are two main sites of perforation: growth or proximal colon, usually ascending colon, involved due to diastatic perforation from long-lasting complete distal obstruction. The frequency of perforations represents some 15 - 25% of all urgently operated on colonic tumors, only exceptional more than 30%, in Czech literature the frequency ranged from 2 - 25% incidence (Hálek, Maňhal, Vlasák, Vyšloužil; summ. in 13) what represents usually the amount from 10 to 30 patients. These data agree with majority of articles presenting similar count of treated patients usually during ten years period (18,22,25), the major group is uncommon (5). The average patient age about seventy corresponds well with the top of incidence of colorectal cancer. Tumor stage III and IV predominate (18). The attention is concerned with tumor stage and resectability of the lesion but the description of the peritonitis degree peritonitis is usually hidden. The opinion that tumor patients with perforation are considered to have a bad prognosis and a reduced long-term survival will be discussed below.

According to the frequency diverticular disease is the most frequent cause of perforation and stercoral peritonitis. The ammounts of referred patients are major and reach a number of one hundred (6,12,22,28). Remarkable is the group of 300 patients with complicated diverticular disease in national British audit (31).

The peritonitis severity stratification using Hinchey score or MP1 allow a comparison of treatment modalities and results and also to approximate, that stercoral peritonitis represents one fifth of all peritonitis of diverticular origin.

Other diseases lead to colonic perforation with less frequency. The prognosis and classification of peritonitis depends on the severity of peritonitis, on the age, on general chronic and acute patient condition (including the advance of underlying malignant disease) and of the choice of a treatment. Two classifications of peritonitis degree are commonly used - four stages classification proposed by Hinchey et al. (22) and the Mannheim Peritonitis Index - MP1 - introduced by Wacha et al (20). While the first one describes only the extent of intraabdominal sepsis, the second one takes into account the age, gender, present organ failure, presence of malignity, duration and origin of peritonitis and finally the features of intraperitoneal content. In both Schemas stercoral peritonitis takes the gravest degree. According to these Schemas the recent datas about mortality of stercoral peritonitis range from 19 to 48% (12,22,25,31).

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The general statement changes are expressed by different scoring systems - the APACHE, resp. APACHE II(16), SAPS and SAPS II (19), POSSUM (24) and HDWS (8) are the most common.

While the septic complications have been responsible for the immediate result of surgical treatment, in tumor patients both an advanced tumor and septic complications of peritonitis have been made responsible for the bad prognosis of malignant perforation. Nespoli found worse prognosis for patients with tumor than diverticular perforation, probably related to more advanced age and to higher severity score of peritonitis in patients with cancer surgery. Some suggest an independent prognostic effect of perforation on survival and report significant differences in long-term survival after adjustment for tumor stages (25), the others demon...
The minimal access using a stoma creation and drainage in surgery is to localise a septic source, to stop a contamination and to clear up a belly. Safety considerations have led surgeons to perform as minimal procedures as possible in the past, respecting that the majority of patients was already very ill, compromised by shock and despite resuscitative measures never fit for an operation. The minimal access using a stoma creation and drainage in acute surgery, initial stage of three stage procedure in resectional lesions, did not meet two first intentions sufficiently and resulted to the mortality about 50% in the past and nowadays as well. Acute resection as effective procedure removing the source of sepsis (even of malignancy) was adopted slowly from 50%. It improved surgical results and decreased mortality from 50% to 30%. Another question occurred: if to finish the surgery by stoma as the Hartmann's or Mikulicz's two stage procedure, or to perform the immediate anastomosis. Despite the interest of surgeons to convince that one of these methods is superior, studies failed namely in patients with complicated colorectal tumor. The survival benefit of single-stage ("primary") procedure was not summarily proven enough (25). Due to experience of high anastomotic leakages rate and persistent peritonitis and sepsis in patients with stercoral peritonitis a discontinuity operation remains the standard one for left-sided perforations until nowadays (2,6,13,18). An extensive resection finished by ileocolic anastomosis represents an alternative method, which minimizes the risk of leakage to 5%.

The analysis of result of methods used for treatment of colonic perforations is not free of problem. Nespoli et al. gave the results of treatment of stercoral peritonitis as follows: 20% mortality after primary resection and anastomosis, 40% mortality after Hartmann's procedure and simple colostomy (22%). Similarly Kriwanek et al. presented 35%, 38% a 100% for patients with perforated tumors and 9%, 13% and 66% respectively for patients with benign perforations in the same sequel of surgical procedures (18). These results suggest that the mortality rate is significantly lower by primary resection rather than by Hartmann's procedure or by colostomy, but the choice of operation depends on the general condition; primary resections were performed with minimally altered patients and the most simple procedures with desperately ill ones. So the real determinant of outcome is not the surgical procedure but the overwhelming septic process measured by scoring systems.

The segmental resection with ileocolic anastomosis is considered to be the optimal surgical option for treatment of stercoral peritonitis from right-sided lesions and the Hartmann's procedure for left-sided perforations (2,6,18,22). The extensive resection (subtotal colectomy) is recommendable for diastatic or multiple perforations.

The others procedures like suture of perforated site stand out appropriately already when no doubt about removing of all involved tissue and complete clearing out of the belly (29). The staged (scheduled) re-laparotomy allows to check the abdomen and remove fluid collections unavailable other way. Laparostomy enables to decrease intraabdominal pressure.

**Surgery and general treatment**

The treatment of peritonitis includes surgery and intensive medical treatment or resuscitation respectively. Both parts underwent significant progress and influenced a results. The task of surgery is to localise a septic source, to stop a contamination and to clear up a belly. Safety considerations have led surgeons to perform as minimal procedures as possible in the past, respecting that the majority of patients was already very ill, compromised by shock and despite resuscitative measures never fit for an operation. The minimal access using a stoma creation and drainage in acute surgery, initial stage of three stage procedure in resectional lesions, did not meet two first intentions sufficiently and resulted to the mortality about 50% in the past and nowadays as well. Acute resection as effective procedure removing the source of sepsis (even of malignancy) was adopted slowly from 50%. It improved surgical results and decreased mortality from 50% to 30%. Another question occurred: if to finish the surgery by stoma as the Hartmann's or Mikulicz's two stage procedure, or to perform the immediate anastomosis. Despite the interest of surgeons to convince that one of these methods is superior, studies failed namely in patients with complicated colorectal tumor. The survival benefit of single-stage ("primary") procedure was not summarily proven enough (25). Due to experience of high anastomotic leakages rate and persistent peritonitis and sepsis in patients with stercoral peritonitis a discontinuity operation remains the standard one for left-sided perforations until nowadays (2,6,13,18). An extensive resection finished by ileocolic anastomosis represents an alternative method, which minimizes the risk of leakage to 5%.

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It is possible to conclude: stercoral peritonitis is an extreme condition even for experienced surgeon. It requires a fast recognition, well intensive care, radical surgery to be effective enough, as well as being performed gently enough not...
to put down the patient. Even already 2400 years ago it was Hippocrates who noted typical signs predicting an early outcome - pointed nose, halo eyes and cold ear auricles (10).

Hippocrates is also an author of an aphorism saying that hopeless events need risky treatment. In connection with stercoral peritonitis both proclamations remains valid.