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What's new in coloproctology?

Co nowego w koloproktologii?

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S u m m a r y

Because of the growing incidence of large intestine diseases, the issue is a very important element of the daily work of most surgical wards and infirmaries. New surgical procedures are appearing, and some of them become standard procedure, while others fail to gain general acceptance after a few tries. Colorectal cancer (CRCA) is currently the third most popular cancer and the fourth most popular cause of death. Both genetic and environmental factors for CRCA development are known. The introduction of new diagnostic methods such as CT, NMR, PET allows for hope for an increase in the percentage of recognized cases of the disease in a stage, which would make it possible to achieve optimal therapeutic results. Surgery is the basic method of CRCA treatment. Because of the growing frequency of their occurrence, the interest in non-specific inflammatory bowel diseases (IBD) remains very high. Progress in the matter is related to pharmacological therapy (new medicinal products), as well as to recognition of factors, which influence the occurrence and development of the disease. In anal fissure treatment, low tolerance for the pharmacotherapy used against the disease, mainly nitroglycerin-based products, can be a problem. Attempts were made with stimulation the posterior tibial nerve and special diet. In anal fissure therapy, positive results are frequently observed when the LIFT technique is used, which means closure of the fissure channel through the intersphincteric approach. In haemorrhoid disease therapy, techniques based on vessel sealing with the Doppler technique – DGHL, have been developing during the most recent few years.

S t r e s z c z e n i e

Ze względu na obserwowany wzrost zapadalności na schorzenia jelita grubego problem ten stanowi bardzo ważny element codziennej pracy większości oddziałów oraz ambulatoriów chirurgicznych. Pojawiają się nowe sposoby postępowania chirurgicznego, w części przypadków wchodząc na stałe do panelu leczniczego, w innych zaś po pierwszych próbach nie uzyskując trwałej akceptacji. Rak jelita grubego (RJG) stanowi obecnie trzecią pozycję wśród wszystkich zachorowań na nowotwory i czwartą w grupie przyczyn zgonów. Znane są czynniki rozwoju RJG zarówno genetyczne, jak i środowiskowe. Wprowadzenie nowych metod diagnostycznych, takich jak TK, NMR, EUS, PET daje nadzieję na zwiększenie odsetka rozpoznania choroby w stadium pozwalającym na uzyskanie najlepszych wyników leczenia. Leczenie operacyjne jest podstawową metodą leczniczą w RJG. Ze względu na rosnącą częstość zachorowań zainteresowanie nieswoistymi chorobami zapalnymi jelit (NZJ) jest wciąż bardzo duże. Postęp, jaki się w tym zakresie dokonuje, dotyczy zarówno leczenia farmakologicznego (nowe preparaty lecznicze), jak i rozpoznania czynników mających wpływ na powstanie i rozwój choroby. W leczeniu szczeliny odbytu problemem może być zła tolerancja farmakoterapii stosowanej w tym schorzeniu, głównie preparatów opartych na nitroglicerynie. Podjęto próby stymulacji nerwu piszczelowego, wprowadzenia odpowiedniej diety w celu poprawy wyników leczenia. W leczeniu przetoki odbytu coraz częściej obserwuje się korzystny efekt po zastosowaniu techniki LIFT, polegającej na podwiązaniu kanału przetoki w przestrzeni międzyzwieraczowej. W leczeniu choroby hemoroidalnej w ostatnich latach rozwijają się techniki oparte na zamykaniu naczyń przy wykorzystaniu techniki dopplerowskiej.

Konflikt interesów
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Brak konfliktu interesów
None

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Because of the growing incidence of large intestine diseases, the issue is a very important element of the daily work of most surgical wards and infirmaries. New surgical procedures are appearing, and some of them become standard procedure, while others fail to gain general acceptance after a few tries.

COLORECTAL CANCER

Colorectal cancer (CRCA) is currently the third most popular cancer and the fourth most popular cause of death (1). Both genetic and environmental factors for CRCA development are known: age over 50 (90% of patients), occurrences of CRCA in the patient's immediate family, colon polyps, inflammatory bowel diseases, wrong eating habits (obesity, alcohol, tobacco). At the same time, physical activity, the right diet (fruit, fiber, vegetables, fish, D and B_6 vitamins, preparations of calcium and magnesium), the use of non-steroidal anti-inflammatory drugs, as well as substitute homeotherapy in postmenopausal women, decrease the risk of CRCA development. During the recent years, there have been some reports about the influence of alcohol consumed on CRCA development. The research results are not clear, yet a certain tendency related to the issue can be observed. In a thesis written with the purpose of researching the correlation between alcohol consumption and development of CRCA in the Mediterranean population, the protective influence of moderate amounts of red wine (up to 35 grams per day) were proven, in the male group of patients, but not in females. However, larger amounts (more than 48 grams per day), mainly in the male group, increased the risk of cancer development. Following the Mediterranean diet was related to a decrease in CRCA development in both sexes (2). Obesity, the rising frequency of which we are also observing in our own country, is not only a higher-risk factor for CRCA development, but also the cause of the increase in percentage of complications in treatment for the disease. This was the conclusion of the authors of a thesis, analyzing the results of therapy of 1048 patients in whose the increased BMI caused worse healing of postoperative wounds and the frequency of eventration occurrence (3). The most important prognostic factor is CRCA advancement at the moment of its recognition, and proper prophylaxis, as well as early diagnosis allow for the improvement of therapeutic results. The most important element of the therapy is surgery, and the implementation of complementary therapy (radio- and chemotherapy) has improved the therapeutic results in the scope of decreasing the percentage of local and distant recurrences, as well as increasing time of survival in advanced cases. In prophylaxis, the basic method is endoscopic screening. Colonoscopy, apart from its diagnostic value, allows for the removal of polyps, which are precancerous conditions for CRCA. However, there are cases of delayed CRCA recognition, after a colonoscopy was performed not very long before, during which no pathological changes were recognized. Literature has introduced the name "interval cancers" for the abovementioned situations. The reason for delayed recognition of "interval cancers" may be the fact that they are small, flat changes, which are not very well visible during endoscopy, especially if the large intestine was not properly prepared or if the endoscopic polypectomy conducted was not thorough enough (4). Some forms of CRCA, which develop in relation to disturbances in DNA repair processes as the reason of cancer development may take on the form of flat changes, quickly-developing polypoid lesions, which develop into cancers during a short period, under 3 years. It has been determined that such forms occur e.g. in the Lynch syndrome, and that they are more frequent in the right half of the colon (5). Similarly, CRCA occurs more frequently in the right half of the colon than in the left half in patients in whom gastroscopy has identified polyps in the duodenum (6). During the recent years it has been observed that CRCA occurrence in the age group of more than 50 years has not decreased, but that it has increased in younger patients, which probably means that the development of the disease is more aggressive in younger patients, however, no clear proof of this thesis has been produced. De Sousa et al. have examined 215 CRCA patients in age groups younger than 50 years (66 people) and older than 50 (149 people) and has not observed any difference in the overall survival rates or in recurrence-free survival in both groups. The independent factors, related to the advancement of the disease, were family history, tobacco smoking, and inflammatory bowel diseases (7). The introduction of new diagnostic methods allows for hope for an increase in the percentage of recognized cases of the disease in a stage, which would make it possible to achieve optimal therapeutic results. One of the important diagnostic factors here, as well as for therapy planning, is the recognition of metastasis in the lymph nodes. Unfortunately, the available diagnostic methods (CT, NMR, and EUS) are characterised by relatively low diagnostic sensitivity in the area of lymph node metastasis recognition. The introduction of PET, a very effective method, which improves the results of tumour diagnosis, local and distant recurrence recognition, allows for hope to improve the diagnostic results also in the area of lymph node metastasis. In a comparative research of PET and CT, Kwak et al. have assessed the usefulness of both methods in the area and has proven a similar effectiveness (87 and 88%, respectively) of both diagnostic methods (8).

Surgery is the basic method of CRCA treatment. In the case of colon cancer, right or left hemicolectomy is the most frequently performed procedure, and segmental resection of the transverse colon, taking into account the current state of knowledge, is not clinically justified and in case of organic changes to that part of the intestine extended right or left hemicolectomy should be performed. Lately there have been papers on the effectiveness and quality of life after subtotal colectomy, related to changes in the distal part of the

colon, the left colic flexure, or the proximal part of the descending colon (9). The authors of such approach stress the smaller percentage of leaks from staple-line breakdowns in cases of tension-free anastomosis and good circulation in the intestinal stumps. In of 106 patients, the low percentage of breakdowns and perioperative complications, as well as increased quality of life, were confirmed after subtotal colectomy. The improvement of therapy results in rectal cancer after total mesocolon excision (TME) was introduced has provided the basis for more determined application of lymphadenectomy in cases of colorectal cancer. Complete mesocolon excision may also influence the improvement of colorectal cancer therapy, as in the case of tumours located in the rectum. Another element which has to be encompassed by resection in case of colorectal cancer is the gastrocolic ligament and superior gastric glands. The rationale of such course of action was confirmed in research by Bertelsen et al., who have observed metastasis in the lymph node group in question in 12% of patients with colorectal cancer (10). In the case of rectal cancer, the standard which has been applied for years is excision of the rectum along with the mesorectum, keeping proper distal and radial margin. Of course, such radical action increases the risk of leaks from the so-called low anastomosis, which occurs in from 3% up to 27% of the patients operated and is the cause of death of 6-9% of the patients, in whom the complication occurred. However, the "high" ligation of the inferior mesenteric artery is disputable: according to some researchers, it decreases circulation in the intestinal stumps and it may increase the percentage of leaks. Rutegard et al. have assessed the risk in a large group, consisting of almost 2 thousand patients, and he did not find out any negative influence of the high ligation of the inferior mesenteric artery on the occurrence of leaks in "low" anastomoses of the rectum (11). The situation, where rectal cancer in the T4 stage is invading other organs. It may be relevant to 10% of the patients, and the necessity to perform the treatment in a single operation not only gives the patients a chance to recover, but also improves their quality of life, because of the numerous complications possible as the result of the cancer's invasion on other organs. An analysis of 1831 patients with rectal cancer, among those 124 in the T4 stage, has produced a calculation of 53% survival rates during a 5-year period, and 18% local relapses were observed (12). It is common knowledge that proper lymphadenectomy is one of the factors influencing effective CRCA treatment. The number of at least 12 lymph nodes in the postoperative material (American Joint Committee on Cancer recommendation – AJCC) is the minimal one for an operation to be considered well performed and the microscopic slide thoroughly examined. Higher number of nodes in the postoperative material provides better results of treatment even if the material does not include metastatic nodes. Moro-Valdezate et al. have tried to determine the factors, influencing the number of lymph nodes removed (13). It was observed that survival rates in cases of colorectal cancer are influenced not only by the fact of at least 12 lymph nodes being removed, but also by the experience and skill of the surgeon operating. What is more, not only the number, but also the size of nodes is significant. An examination of more than 2000 lymph nodes from 150 patients operated for CRCA has proven that the evaluation of lymph nodes smaller than 3 mm in diameter has no influence on the evaluation of the cancer's stage (14). In the natural course of CRCA liver metastases occur in 40-50% of the patients, at various stages of the disease, including at the moment of diagnosis in 20%. Resections of liver metastases provide a chance to achieve long-term survivals in more than 50% of the cases. Simultaneous treatment of CRCA and liver metastases is still a disputed issue. Of course, the removal of single peripheral changes in the liver and, at the same time, resection of the tumour located nearby, in a patient in good general condition is hardly doubtful, but a wide resection of the liver conducted simultaneously is not such an obvious choice. One of the elements, which may influence therapy results is the necessity to temporarily clamp the blood flow to the liver (Pringle manoeuvre), which may increase the portal tension and negatively influence the healing of the intestine anastomosis, as well as cause the occurrence of intra-abdominal abscesses. De Raffele et al. have conducted research, which has not confirmed the negative influence of temporary clamping of the vascular pedicle of the liver during the resection of metastatic liver tissue on the risk of leaks in the intestine anastomosis performed (15). Therefore, the only limitation to the simultaneous resection of an intestinal tumour and of metastases in the liver is the extent of the operation, which the patient's organism can accept. Currently research is being done on the possible use of multi-medication therapy before the resection of metastatic liver parenchyma. On the one hand, chemotherapy can make it easier to effectively resect the metastatic changes, but on the other, it negatively affects the healthy parenchyma, especially in obese patients with fatty changes (16). Metastases into lungs occur in 15% of colorectal cancer patients, and resection thereof is currently standard therapeutic procedure, since the five-year period survival rates after such operations range from 24 to 67%, and on average it is higher in patients operated than in ones who only received supplementary chemotherapy (17). Relapses of cancers happen to a dozen or so percent of the patients, which determines the need for a thorough follow-up during the postoperative period and allows for a radical resection of the recurrence with no clinical signs of the disease. Lan et al. have tried, in a group of 395 patients, to determine the clinical and pathological characteristics of an early (up to 3 years) and late (more than 3 years) relapse of CRCA (18). During stages I and II of the disease, patients with T4 characteristics showed a tendency for an early relapse, and in stage III, it was observed in N2 patients. The

patients with mucinous carcinoma, older ones, or with metastases in lymph nodes, with poorly differentiated carcinoma, usually survived less than 2 years from relapse recognition. What is more, patients on whom resections of the lungs or liver were performed because of metastases would survive longer than patients to whom no such procedures were applied.

INFLAMMATORY DISEASES OF THE INTESTINES

Because of the growing frequency of their occurrence, the interest in non-specific inflammatory bowel diseases (IBD) remains very high. Progress in the matter is related to pharmacological therapy (new medicinal products), as well as to recognition of factors, which influence the occurrence and development of the disease. The international programme Interchip has confirmed that the human genome contains 163 items related to vulnerability to inflammatory bowel disease (19). 110 of those are characteristic of both non-specific enteritis, 30 are peculiar to Crohn's disease (CD), and 28 are characteristic to ulcerative colitis (UC). One of the significant problems of Crohn's disease patients are relapses after bowel resection operations. They occur in as many as 70-80% of the patients in the 20 years following the operation, and in 10% of the patients they are related to the necessity of creating a permanent intestinal stoma. Biological treatment for non-specific enteritis, applied after the operation, decreases the risk of relapse both when infliximab (20) or adalimumab (21) are used, but as the most recent research has shown, the most important factor is proper optimization of the treatment and simultaneous use of these products with azathioprine, not monotherapy (22). A new medicine, introduced to therapy for UC with moderate-severe activity, and achieving clinical response of about 50%, is golimumab (23). For 3 years positive results have also been noted from therapy, based on attempts at transplantation of intestinal bacteria to patients with ulcerative colitis (24). Research indicates efficiency, safety, reduction of signs of the disease, and in some cases, remission. Another problem in UC therapy is the frequent occurrence of venous thromboembolism in the group of patients, who were subject to surgical treatment. When very large groups of non-specific enteritis and UC patients were compared (more than 45.000 people), the occurrences of such complications were significantly higher (2.7 vs 2.1%) in the group with non-specific enteritis. It is, therefore, believed that in these patients the period of postoperative antithrombotic prophylaxis should be lengthened to 4 weeks after the operation. A major problem in Crohn's disease therapy is its perianal form because of the ulcers and fistulas of the anus, but also stenosis, fissures, and sores. Such changes are present in as many as 70% of the Crohn's disease patients, and fistulas are the only sign of the disease in 15% of the patients. Since the presence of fistulas is related to occurrence of inflammatory states in the rectal mucosa (95%), the main goal of the therapy is to effect a remission related to the healing of the rectal mucosa. Simultaneous surgical and biopharmaceutical treatment improves the effect of fistula treatment in Crohn's disease and allows for an increase in the healing percentage thereof (26).

PROCTOLOGY

In anal fissure treatment, low tolerance for the pharmacotherapy used against the disease, mainly nitroglycerin-based products, can be a problem. Attempts made with the local use of Captopril ointment allow for hope to improve the therapy results, but manometry has not clearly confirmed the efficiency of the method (27). Certainly, further research is needed on the attempts to stimulate the posterior tibial nerve (28), but in another interesting research it was proven that proper diet influences the healing of anal fissure. Randomly chosen patients were assigned to two dietary groups (one was eliminatory and no alimentary allergens were included – cow's milk, chocolate, eggs, and tomatoes were excluded; and the other was pseudo-eliminatory, where only chosen products were excluded from the diet) and subjected to typical, identical conservative treatment. Better results were indicated in the eliminatory group, but relapse of the symptoms was observed after allergenic products were reintroduced to the diet, while in the pseudo-eliminatory group an improvement was effected when during the second stage of the research the allergenic factors were removed (29). In anal fissure therapy, positive results are frequently observed when the LIFT technique is used, which means closure of the fissure channel through the intersphincteric approach (30). It has been stressed that the procedure is very effective, more than 70%, and the operational risk is low. Unfortunately, any hopes related to the use of fistula plugs are dispersed by subsequent papers, which prove the low efficiency of the method (about 30%) and large relapse rate (up to 86% in long-term observation) (31, 32). A new fistuloscopic method, VAAFT, is also being developed, which allows for a closure of the fissure channel under visual control (33). Even though treatment of multi-channelled, acute-angled fissures can be at least difficult, the authors inform of the method's high efficiency (up to 70% success rate). Further papers devoted to this and other methods of treatment for anal fissure, such as the OTSC stapler (34) may improve the results of treatment for the disease, which frequently is very complicated and has a high relapse rate, even though with the technique mentioned above, a closure of a hardened, stiff and infiltrated internal exit of the fissure does not seem possible. In haemorrhoid disease therapy, techniques based on vessel sealing with the Doppler technique – DGHL, have been developing during the most recent few years (35). Large amounts of data gathered from the treatment of 2904 patients and based on 28 clinical researches have proven that the method can be considered safe and recommended for stages II and III of the disease, as there are 17% re-

lapses, and low percentages for relapses (5%) and consecutive interventions (6%). In another research, a prospective one judging DGHL for stages III and IV of the disease, where it was supplemented with plastic surgery for Recto Anal Repair (RAR), it was proven that a year after the operation 89% of the patients were cured, and that the DGHL-RAR does not impede the function of the anal sphincter (36).

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