

Bacterial overgrowth in chronic states can lead to B₁₂ vitamin consumption as it is in all blind loops and could be a reason of macrocytic anaemia development. Gradually, microabscesses can develop. Microabscesses are inclined to perforate spontaneously, thus causing localised, or less frequent generalised peritonitis. If the perforation results in peritonitis, there is a risk of the development of a large abscess and its penetration into adjacent organs. Acute diverticulitis can be clinically manifestant as appendicitis localised to the left. The symptoms frequently appear during defecation. In addition to the intestinal symptoms, the overall clinical picture includes fever, leukocytosis, and palpable resistance. Bleeding is not massive. Repeated attacks of diverticulitis result in the development of fistulae.

7.14.5 Extraintestinal manifestation of inflammatory intestinal diseases

Extraintestinal manifestation of ulcerative colitis and Crohn's disease greatly resemble each other. Nutritional deficiency appears in consequence of anorexia, fever, blood loss and malabsorption. This state results in an abrupt **weight loss** which at a young age brings about developmental retardation. The inflammatory bowel disease can be associated with two forms of arthritis, often referred to as enteropathic arthritis. The first form is so-called **non-deforming acute arthritis** of big joints. The second form is sacroiliitis and ankylosing spondylitis which appear in patients with HLA B27. The articular affliction can precede the clinical manifestation of intestinal inflammation even months or years prior to the latter. The characteristic symptoms include mono or oligo-arthritis and asymmetrical synovitis of the knee or ankle joints. Sacroiliitis and ankylosing spondylitis persist also in cases where resection was performed due to Crohn's disease.

Extraintestinal manifestation of inflammatory intestinal diseases can include also hepatobiliary changes. Many patients have moderate **pericholangitis** which is manifestant by an increase in alkaline phosphatase. The occurrence of extra and intra-hepatic sclerotising cholangiitis manifestant by obstructive jaundice, is less frequent. Slower progression brings about cirrhosis. Sclerotising cholangiitis is more often associated with ulcerative coli-

tis than with the Crohn's disease. Patients with Crohn's disease more frequently develop cholelithiasis. Cholelithiasis is especially enhanced in cases where ileum is involved, namely in consequence of decreased reabsorption of bile acids.

The symptoms of inflammatory intestinal disease more frequently include **episcleritis, iritis and uveitis**. Approximately 5% of patients develop erythema nodosum. Renal disorders are observable as urolithiasis with the formation of calcium-oxalate stones. Further symptoms include obstructive uropathy, kaliopenic nephropathy and amyloidosis. The patients with inflammatory intestinal diseases are inclined to the development of thrombophlebitis. Inflammatory intestinal diseases can be complicated by osteoporosis and osteomalacia.

Extraintestinal manifestation can, in special cases, precede the development of intestinal symptoms. It is not simple to assess the correct diagnosis on the basis of clinical manifestations. Ulcerative colitis and Crohn's disease must be differentiated especially from bacillary dysentery, amoebiasis, pseudomembranous colitis, ischaemic colitis, neoplastic processes, angiodysplasia and specific forms of colitis.

7.15 Tumours of the GIT

Neoplastic processes of the gastrointestinal tract are the most frequent malign tumours. This chapter will be devoted to tumours of GIT, in addition to the tumours of pancreas and liver.

7.15.1 Carcinoma of the oesophagus

The oesophageal tumours are usually malign. Solely 10% of tumours localised in the oesophagus are benign. Oesophageal tumours occur approximately 4 times more frequently in black people and as many as 30 times more frequently in the northern China and the surroundings of the Kaspian Sea. The exact cause of this phenomenon is unknown. They often occur in smokers, alcoholics, and in persons with gastro-oesophageal reflux. The incidence of oesophageal carcinoma is higher in patients with gluten-

sensitive enteropathy. The mechanism, as to the reason why carcinoma develops in coincidence with the reflux and enteropathies, is unknown.

Oesophageal carcinoma is manifestant by dysphagia. Patients with dysphagia above 40 years of age must be examined bearing in mind the possibility of the presence of oesophageal carcinoma. Contrast radiographs, oesophagoscopy, cytologic and bioptic examinations are used to distinguish strictures and benign tumours from carcinomas. Dysphagia progresses gradually. At the beginning, the difficulties appear in coincidence with the swallowing of solid food. Six months after the onset of this symptom, the difficulties arise in association with the swallowing of fluids as well. In turn, anorexia and subsequent weight loss appear. Regurgitation of food and its subsequent aspiration entail the development of bronchopneumonia. Dysphagia brings about substernal pain. Its appearance represents the signal that carcinoma begins to overgrow the mediastinal structures. Approximately 5% of these tumours are associated with an abrupt bleeding. The affliction of laryngeal innervation affects the voice which becomes noticeably hoarse. Paraneoplastic endocrine abnormalities rarely appear. Oesophagotracheal and oesophagobronchial fistulae are more frequent. Metastases appear in regional lymphatic nodes, liver and lungs.

7.15.2 Carcinoma of the stomach

Gastric carcinomas most frequently involve adenocarcinomas. Only 5% of patients develop primary lymphoma of the stomach, or leiomyosarcoma. Benign tumors of the stomach rarely occur.

The past 30 years have yielded a dramatic decrease in the occurrence of gastric carcinoma in the USA and western Europe. Japan, South America and eastern Europe continuously yield high occurrence of this disease. In addition to these geographical factors, it is known that **gastric carcinoma occurs more frequently in men than in women**. The incidence is higher in black people and persons with blood group A. Unfavourable dietary factors include nitrates, salt, insufficiency of fresh vegetables and fruit. Carcinoma occurs more frequently in patients who have suffered from atrophic gastritis.

Adenocarcinoma grows from the mucosal cells. It grows neither from parietal, nor from chief cells. Tumours are most frequently localised in the distal

third of stomach. Their growth is sometimes diffuse and infiltrative (they are usually referred to as *linitis plastica*) and they can exulcerate.

At its onset, the gastric adenocarcinoma is manifestant by unspecific symptoms. Epigastric pain arises among the initial symptoms. The pain is significantly variable. Sometimes it resembles that arising in coincidence with gastric ulcers. However, more frequently it is associated with epigastric discomfort, nausea and sensation of satiety even after a small meal. **All patients display anorexia and weight loss**. Vomiting is present especially in cases when carcinoma is localised in the distal part thus causing gradual pyloric obstruction. A tumour in the area of cardia can infiltrate the gastro-oesophageal junction and therefore cause dysphagia. Gastric tumours frequently bleed, thus causing iron deficiency and the development of hypochromic anaemia. Haematemesis sometimes occurs. In such cases, the patient suffers from overall weakness with pronounced hypotension. Metastases can cause obstructive jaundice, malign ascites, or gastrocolic fistula.

Endoscopic examination associated with cytologic and bioptic examinations have not been overcome by any other diagnostic methods in coincidence with gastric carcinoma. Surgical therapy depends on the presence of metastases. The palliative measures often prevail therapeutical interventions. Less than 10% of patients survive a period of five years.

7.15.3 Carcinoma of the large intestine

Adenocarcinoma is the most frequent malignity of the large bowel. **Following carcinomas of the lungs and breast carcinoma, the carcinoma of the large bowel is the most frequent carcinoma** in both men and women in western Europe. The precise cause is unknown. However, circumstances and factors which enhance the incidence of carcinomas are known. A higher incidence is reported to be in patients who accept food with low contents of fiber and high contents of animal fat and proteins. It is held that on the basis of such a diet, the intestinal microbial flora produces carcinogenes which are in contact with the mucosa for a long time. When exposed to critical judgement, these ideas appear to be rather speculative. Similarly it is expected that the possible protective effect of selenium, ascorbic acid and alpha-tocopherol will be

confirmed. Many risk factors are known to have an impact increasing with age. The forefront factors include inflammatory intestinal diseases, familial polyposis and colorectal carcinoma occurring in the first level of kinship. Risk factors include also the multifocal malignity in first level of kinship, especially the malignities in female genital organs. Activation of oncogenes can play a crucial role in the development of colorectal tumors.

Regarding the histologic aspect, adenocarcinomas of the large intestine are greatly variable. However, their prognosis depends more on the extent of invasion than on the histologic picture. They are predominantly localised in the descending and sigmoid colons and in the rectum. Early symptoms of colorectal carcinoma are unspecific and alternation of constipation with diarrhoea, and tenesmus are observed. Haematochezia with anaemia are significant symptoms. They are associated with weakness, weight loss and anorexia. More scarce is the development of peritonitis in consequence of tumor invasion, or due to perforation of the intestinal wall. Abdominal pain, alterations in stool shape, haematochezia and anaemia induced by iron deficiency in persons above 40 years of age require diagnostical consideration of colorectal carcinoma. Bright blood in stool can be put into association with haemorrhoids and diverticulitis solely after exclusion of malignity. The finding of occult bleeding, although without pronounced symptoms can contribute to an early diagnosis of malignity. Clinical examinations supported by bioptic examination are sufficiently reliable. Resection of tumor should be followed by a check-up detection of the plasma carcinoembryonic antigen which serves as a marker of relapse.

7.15.4 Polyps in GIT

Polyps in GIT result from excessive growth of luminal epithelial cells. The occurrence is sporadic or familial. Polyps may be both benign or malign, single or multiple. After 65 years of age, they are detectable in two thirds of the population. Benign polyps almost never progress to malignity. They are often accidentally detected in coincidence with other examinations as an accidental finding. Clinical manifestation of polyps includes bleeding, anaemia and abdominal pain. Large polyps may lead to intestinal obstruction or cause profuse diarrhea.

Familial polyposis of the large bowel is a disease of low incidence. Polyps begin to develop already in children at school age. They result from activation of a precisely defined oncogene. The intestine may contain as many as 1000 polyps ranging from micro to macroscopic size. They are potentially malign and therefore prior to their surgical removal it must be taken into account that total colectomy will have to be performed.

7.16 Bleeding from GIT

Bleeding from GIT is a severe, and frequent symptom. As to the quantity, the bleeding per se may be massive and acute, or occult. It may be of episodic character. In approximately 80% of cases, the acute bleeding stops spontaneously. If the bleeding reoccurs or persists, may be life-threatening. The treatment of gastrointestinal bleeding must therefore resolve the hypovolaemia, cease the bleeding and prevent the relapses. **Acute bleeding** can be manifestant by symptoms as follow:

1. **Haematemesis** refers to vomiting of blood. Oesophageal varices often result in vomiting of bright red blood. However, if the blood, prior to being vomited gets into contact with gastric acid its appearance resembles the sediment of black coffee.
2. **Melena** (melas Gr.black) refers to a black colouring of stool caused by the presence of blood. It appears due to bleeding from any part of GIT extending from the oral cavity to the large intestine. Melena is usually present in coincidence with bleeding from the portion above the ligament of Treitz. The black colouring of stool is caused by haem, namely due to its oxidation by intestinal and bacterial enzymes. The haem becomes oxidated within 8 hours. Melena develops when the bleeding from GIT reaches 50–100 ml per day.
3. **Haematochezia** is a symptom of bright red blood being present in stool. It is caused by bleeding