Diverticulitis

Bernhard Lembcke^a Ferdinand Köckerling^b

^ac/o Department of Medicine I, ZIM, Johann Wolfgang Goethe University Hospital, Frankfurt/Main, Germany,

^bDepartment of Surgery, Vivantes Hospital, Berlin, Germany

Diverticulosis, diverticular disease, and diverticulitis describe an increasingly important colonic abnormality and its complications. While colonic diverticulosis is not a disease per se, lifestyle or drugs may be determining factors for complications. Medical awareness, however, has been focused during the past decades on conservative therapy relying on antibiotics on the one hand and surgical treatment either in the elective or emergency setting on the other hand. After the introduction of laparoscopic surgery, sigmoid colon resection became a very frequently performed procedure, which accordingly has led to technical perfection but also to the need to define the role of surgery in the contemporary setting.

Therefore, now is the time for a new and synoptic glance at diverticular disease from both the gastroenterological and the surgical point of view.

This issue of VISZERALMEDIZIN thus compiles contributions on the important morphologic basis for developing diverticula and their complications, which provides not only a fundamental understanding of diverticular disease but also the substrate for any diagnostic imaging method. Moreover, using modern techniques, structural and functional alterations have been revealed concerning the colonic muscle layers, connective tissue composition, and nerves, which may explain altered motility and sensitivity, and form the basis for the current understanding of the pathogenesis of diverticular disease.

The contribution of environmental factors, among which the ‘fiber hypothesis’ has gained widespread acceptance among physicians and the general public, is rather complex and thus reviewed in detail. What leads to diverticulosis, and what contributes to complications (diverticulitis, bleeding) if a person has colonic diverticula? One rather new aspect is the understanding that diverticulosis has a substantial genetic background and certain genetic associations, but the development of diverticulitis or diverticular bleeding is subject to a variety of controllable factors. Hence, epidemiology may guide both, history taking and preventive recommendations.

Diagnosis and differential diagnosis of diverticular disease require physical examination, simple laboratory tests, ultrasound (or

computed tomography) as cross-sectional imaging procedure, and classification. The new classification, owed to the S2k guideline ‘Diverticular Disease/Diverticulitis’ of the Deutsche Gesellschaft für Gastroenterologie, Verdauungs- und Stoffwechselkrankheiten (DGVS) and the Deutsche Gesellschaft für Allgemein- und Viszeralchirurgie (DGAV) from 2014, comprises the entire spectrum of diverticular disease, and is well applicable in ambulant patients as well as in the emergency setting. Along with this guideline, ultrasonography has been fostered as the method of choice in the initial diagnosis and follow-up of diverticulitis while colonoscopy is not required for diverticulitis but for differential diagnoses with atypical course, e.g. segmental colitis associated with diverticulosis (SCAD), symptomatic uncomplicated diverticular disease (SUDD), or mesenteric inflammatory veno-occlusive disease (MIVOD). Computed tomography, however, has still a role in critical situations and cases of inadequate ultrasound performance or insufficient ultrasound imaging quality.

The core indication for colonoscopy along with interventional therapy, however, is diverticular bleeding. When and under which circumstances colonoscopy can be safely performed in cases of suspected diverticulitis, is a matter of debate and the topic of a round table discussion among experienced clinical endoscopists and practitioners.

While recommendations for primary or secondary prevention reasonably reflect epidemiological findings but lack interventional proof throughout, conservative therapy relies on antibiotic therapy in complicated diverticulitis (type 2); however, in uncomplicated diverticulitis (type 1) antibiotic therapy has recently been questioned in the literature. Whether the time has already come to change daily practice, as well as the value of supportive measures is addressed in another review.

The surgical strategy for the optimal treatment of acute complicated diverticulitis has been a matter of debate, and has undergone significant changes in recent years. Owing to interventional technological progress and laparoscopic treatment modalities, the main focus of surgical therapy is on controlling emergency situations and avoiding Hartmann’s procedures.

The indication for surgery in chronic recurring diverticulitis is no longer based on the number of episodes alone, but on the individual case and course, taking risk factors, complications, age, severity of episodes, as well as the patients' personal circumstances and comorbidities into account. Today, laparoscopy is the surgical method of choice for resection in recurrent sigmoid diverticulitis.

Apart from minor problems such as wound infection or urinary tract infections, major complications following emergency or elective surgery (anastomotic leakage, peritonitis, bleeding, small bowel obstruction) can also be adequately managed. However, early diagnosis is mandatory in these situations. Therefore, if diag-

nostic procedures fail to deliver a correlate for a deteriorating clinical situation, relaparotomy or relaparoscopy still remain important diagnostic tools.

Diverticular disease and acute diverticulitis in particular is a paradigm for prosperous cooperation among gastroenterologists and visceral surgeons. Accordingly, this issue of *VISZERALMEDIZIN* gives the reader the opportunity of an equally comprehensive and detailed up-to-date overview along with insights into the new German guideline.

Medicine and surgery are always at the interface of progress in work and work in progress. Therefore, the guest editors hope that this issue may be highly proficient for the readers' daily practice.