GENERAL SURGERY

Editor
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ISBN
978-625-7401-28-9

Name of Book
General Surgery

Editor
Ömer ALABAZ
ORCID iD: 0000-0001-5235-7392

Publishing Coordinator
Yasin DILMEN

Page and Cover Design
Typesetting and Cover Design by Akademisyen

Publisher Certificate Number
47518

Printing and Binding
Printing Press Vadi

Bisac Code
MED085000

DOI
10.37609/akya.173

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PREFACE

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Chapter 1

BILIARY PANCREATITIS DIAGNOSIS AND TREATMENT

Barış MANTOĞLU[1]
Enis DİKİCİER[2]

INTRODUCTION

Acute pancreatitis is an inflammatory disease of the pancreas that occurs in the pancreas as a result of various reasons and can threaten life if not managed well. It is among the leading causes of hospitalization in the United States[1]. All over the world, the incidence of pancreatitis rises with the increased rates of obesity and gallstones[2]. Mortality in acute pancreatitis depends particularly on the severity of systemic inflammatory response syndrome (SIRS)[3]. The transformation of acute inflammation to necrotizing pancreatitis can increase mortality rates up to 17%[4,5]. The average age in acute pancreatitis associated with biliary tract diseases is higher than the average age in alcoholic pancreatitis. The female/male ratio is higher in favor of women. In this part of the book, gallstones and bile sludge, which constitute a significant cause and part of acute pancreatitis, will be discussed.

ETIOLOGY AND PATHOGENESIS:

In the etiology of acute pancreatitis, 45% -70% gallstones, 35% alcoholism, 10% idiopathic causes and 10% other causes play a role. Most studies have shown that idiopathic causes, when well researched, are linked to biliary etiology.

CAUSES OF ACUTE PANCREATITIS

1- Obstruction

Choledocholithiasis, ampullary and pancreatic tumors, foreign bodies and parasites in the papilla, pancreatic divisium, periampullary duodenal diverticulum, hypertensive Oddi sphincter.

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Most patients with biliary sludge are asymptomatic. However, biliary sludge is commonly found in 20 to 40 percent of patients with acute pancreatitis with no other obvious cause. On ultrasound, sludge appears as a mobile, low-amplitude echo that layers in the most dependent part of the gallbladder and is not associated with shadowing. However, ultrasound has a low sensitivity for biliary sludge. If the cause is not clear, we perform EUS, even after one attack, to look for microlithiasis in the gallbladder or bile duct. Cholecystectomy should be performed in patients who have had an episode of pancreatitis and have biliary sludge[64,65]. Studies suggest that biliary sludge can lead to pancreatitis and that these patients may benefit from intervention[13,66].

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Chapter 2

CURRENT EVALUATION OF ACUTE ABDOMINAL PAIN

Burak DEMİRCİ[1]

INTRODUCTION

Abdominal pain constitutes a large part of the reasons for admission to the emergency department. The approach to abdominal pain is a very important issue because of its frequency, diversity of etiology and negative prognosis.To evaluate this patient group correctly, to make a fast and accurate diagnosis and to apply the correct treatment will greatly contribute to the reduction of morbidity and mortality.Therefore, it is necessary to know the causes and mechanisms of pain. Abdominal pain for less than a week is defined as acute pain and most of the admissions to the emergency department are in this patient group.Anamnesis, physical examination and laboratory examination play an important role in the management of abdominal pain, and imaging methods are often required. The demographic dataof the patients affect the clinical presentation types and the incidence [1].

EMERGENCY RISK ASSESSMENT

Determining the urgency and criticality level of the patient is vital in acute abdominal pain. Criteria such as the patient's old age, very sudden onset of pain, impaired vital signs, and signs of dehydration make the patient more critical. The severity of the pain may not always be associated with poor clinical practice. Presence of acute post-pain shock findings may indicate intraabdominal hemorrhage.But even this does not show any symptoms before the blood volume decreases by 30-40%. Although tachycardia may occur as a sign of volume loss, its absence does not rule out this situation. Although tachypnea may be due to pain and anxiety in patients, it may be a predictor of cardiopulmonary problems and metabolic acidosis.In patients at risk, cardiac monitoring should be applied in the emergency department, wide vascular access should be kept ready, and oxygen and fluid replacement support should be started if necessary. Quickly suggestive

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communication and poor cognitive functions are at high risk. Hospitalization can also be considered for patients whose general condition is poor, clinical improvement cannot be achieved, toxic appearance and without social support. Even if everything seems normal as a result of the laboratory and imaging results, the patient should be warned for a re-admission within 12 hours for increased pain, fever, bleeding and nausea and vomiting. Patients should be informed about drug use and diet. Even if a discharge is planned, the patient and their relatives should know in what case they should apply to the hospital again.

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Chapter 3

CURRENT EVALUATION OF ACUTE PANCREATITIS

Çilem ÇALTILI[1]

INTRODUCTION

Acute pancreatitis (AP) is an important cause of abdominal pain related to the gastrointestinal system. This disease has high mortality and morbidity. While AP may be limited with in the organ in the pancreas, it also has an inflammatory multisystemic process that can spread to surrounding tissues and organs. Although the disease can be seen once in a life time, it can recur with a frequency of 15-30%. Consequently, chronic pancreatitis can develop up to 25% (1-3). Its frequency is increasing. This increase in incidence is thought to be due to the change in eating habits, the increase in alcohol consumption, the adoption of a sedentary life style, and the presence of pancreatic enzymes in routine biochemistry tests. Despite all developments in the diagnosis and treatment of AP, the morbidity rate is 20% and the mortality rate is 10-25% (4).

The most common etiological factors causing AP are shown in (Table 1). Although many etiological factors have been defined, it is seen as idiopathic in 30%. The underlying cause of the idiopathic group is thought to be microlithiasis. The most common cause of AP in the world and in our country is gallstones. The second most common is due to alcohol use. Pancreatitis due to alcohol use is common in males, especially in western countries (5-7). It is thought that the relationship between alcohol use-induced pancreatitis develops as a result of a complex process involving toxic and immune mechanisms (8). Among other reasons, drug use is an important condition and more than 500 drugs cause AP. In this group, especially antiretrovirals, chemotheropathics and immunosuppressive drugs are included (9). In addition, hypertriglyceridemia, hypercalcemia, autoimmunity, genetic and anatomical anomalies are among the causes of AP (10).

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or worsening organ dysfunction and sepsis. Organ failure is especially seen in cardiovascular, respiratory and renal systems.

CONCLUSION

In the diagnosis and follow-up of acute pancreatitis, it is important to determine these verity and etiology of the disease. Although the diagnosis of AP, which is one of the causes of abdominal pain, and the regulation of its treatment are not clear in the latest updated guidelines, studies continue to reduce mortality and morbidity. Due to the variety and variability of clinicalfeatures of acute pancreatitis, it is important to detect clinical severity at an early stage. Effective treatment approach and minimum complication control should be provided. In addition, protocols such as life style changes, reduction of alcohol and tobacco use and new pharmacological treatments are of great importance in the treatment of pancreatitis.

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Chapter 4

GALLBLADDER CANCER

Emre GONULLU[1]

EPIDEMIOLOGY

The incidence of gallbladder cancer (GBC) varies according to countries and geographical locations. It's incidence is higher in East Asian countries and South America, mostly in Chile, besides in particular countries such as Pakistan India[1]. However, GBC is the 6th most common tumor in Western countries, it is the most common gastrointestinal malignancy in Southwestern Native Americans and Mexican Americans[2,3]. GBC incidence is 1 to 2 cases per 100,000 population in the United States but the incidence increases to 7.1 in 100,000 among Native American females with cholelithiasis, and 27.3 in 100,000 among Native Females in Chile[4,5,3]. It is six times more common in women[6]. GBC incidence increases with age, and while it peaks in the 7th decade, there are studies suggesting that the incidence is increasing in young Americans[3,7].

ETIOLOGY & PATHOGENESIS

Although the pathogenesis of GBC has not been fully clarified, it is thought that gallstones, gallbladder infection, genetics, race, environmental factors, and socioeconomic level play a role in the occurrence of gallbladder cancer[1,3,8]. The common feature of many etiological factors is that they cause chronic inflammation in the gallbladder[3].

Gallbladder Polyps

Gallbladder polyps which are usually found at the gallbladder mucosa, in the pathological examination of cholecystectomy material or incidentally at abdominal imaging, originate from the gallbladder mucosa. Polyps may be benign or malign.

- **Malign Polyps:** Adenocarcinoma, Mucinous cystadenomas, Squamous cell carcinoma, Adenoacanthomas

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Table 2: The 8th edition of The American Joint Committee on Cancer (AJCC) Staging classification og gallbladder cancer			
Stage	**Tumor**	**Node**	**Metastasis**
0	Tis	N0	M0
1	T1	N0	M0
2a	T2a	N0	M0
2b	T2b	N0	M0
3a	T3	N0	M0
3b	T1-3	N1	M0
4a	T4	N0-1	M0
4b	Any T Any T	N2 Any N	M0 M1

Treatment

Curative treatment of GBC is particularly surgery. Extensive involvement of hepatoduodenal ligament or major vessels (Common hepatic artery, main portal vein) by the tumor, liver metastasis, extensive peritoneal metastasis, ascites, and paracaval, superior mesenteric artery, celiac artery lymph nodes metastasis are contraindications to resection[38]. Cholecystectomy would be adequate for T1a tumors[39]. For T1b, T2 tumors extended cholecystectomy, which is the removal of gallbladder and subsequently resection of adjacent at least 2 cm liver tissue adjacent to gallbladder bed (Segment IVb-V) should be performed[40]. For T3 GBC, en bloc resection of gallbladder and adherent organs is an option but is not associated with improved survival[41]. T4 tumors are usually unresectable due to major vessel involvement. Radical resection of locoregional Lymph node (common bile duct, cystic duct, portal vein, or hepatic artery) metastasis is associated with improved five-year survival rates[42,43]. However, existing lymph node metastasis beyond the locoregional lymph nodes is associated with poor survival rates[42].

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Chapter 5

MINIMAL INVASIVE APPROACH IN PILONIDAL SINUS TREATMENT: ENDOSCOPIC PILONIDAL SINUS TREATMENT

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Pilonidal cyst disease is a chronic inflammatory process which is frequently developed on the sacrococcygeal area and is related with the existence of hair on that area [(1)]. This disease is seen approximately 3 times more often in men and is frequently seen in young people, especially in the third decade [(2)]. Some factors such as increase of hair on the disease area, male sex, inadequate hygiene, sedentary life and being overweight are accused for the formation of pilonidal sinus (PS) [(3,4)]. In addition to some patients who can be asymptomatic, pilonidal sinus can cause pain, recurrent abscess formation and acute or chronic infections [(5,6)]. Sacrococcygeal pilonidal disease was firstly described by Mayo in 1883 and since then, various treatment modalities have been improved for this disease's management [(6)].

Although several methods have been used over the years in PS treatment, any consensus cannot be generated on an ideal treatment [(7)]. The ideal treatment method should have some specific qualities for example; easily applicable, cost effective, small wound size, slight pain, rapid wound healing, simple wound care, return to daily activities as soon as possible, short term labor loss, low recurrence and complications [(3,8)].

Sacrococcygeal pilonidal disease's major treatment is surgery. Several treatment methods are defined in literature. These techiques are as follows; the excision of the sinus which is left open, excision and marsupialiastion, Karyadakis and Limberg like flap techniques with fibrin glue, thrombin-gelatine matrix or phenol injections with the curettage of the sinus [(6)]. The use of these minimal invasive techniques have been preferred more during the recent years for pilonidal sinus disease. In the minimal invasive surgery period, the use of endoscopy has

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Even in recurrent sinus cases, the EPSIT method had satisfying results. In the study which was performed by Meinero and his friends, a 5.1% relapse rate and a 5% incomplete wound healing rate was found. Despite the fact that EPSIT has many advantages, it also has some limitations such as the cost of fistuloscope and its kit, and the training and experience required by the surgeons for this procedure.

RESULT

For pilonidal sinus disease, there is no definite treatment but minimal invasive procedures have started to be performed more frequently. In these methods, EPSIT is one of the best known. In primary sinus and recurrent sinus patients, EPSIT is an alternative procedure to flap technique and other ways of treatment. After surgery, getting back to work and one's own daily life is fast and disease related economical loss is decreased. EPSIT is a more effective procedure than traditional methods, in terms of having less complications, slighter pain, shorter hospitalization times, less incision scars, and an acceptable level of recurrence rates. Recently, endoscopic procedures have become the first choice for most of the surgeries. Thus, in the near future, it is thought that EPSIT may be a gold standard method of pilonidal sinus treatment.

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Chapter 6

HICCUP

Hüseyin Fatih SEZER[1]

DESCRIPTION AND GENERAL FEATURES

Hiccup is a rhythmic sound that occurs as a result of involuntary contraction of the respiratory muscles and the closure of the airway entrance. It has no physiological function [1,2]. According to some authors, it is the reflex to protect the respiratory tract from gastric aspiration [3]. It can be seen in all age groups. It even starts in the intrauterine period, and its frequency gradually decreases from the neonatal period until the age of 1 year [4]. It can get annoying sometimes and it can create restrictions in people social life. Even the death of a person was associated with hiccups [5,6]. Usually occurs at fixed intervals and on average 6-12 times per minute [7]. It can repeats up to 60 times per minute [8]. It usually resolves spontaneously in a short time without treatment. When it is prolonged and persistent, it becomes pathological. The longest known hiccup lasted 69 years and 9 months, listed in the Guinness Book of World Records [6,9].

EPIDEMIOLOGY

There is no sufficient information about its actual incidence and its relation to demographic characteristics [7,8]. Studies on the subject are individual case reports or studies with a limited number of patients [10]. The rate of hospitalization in hiccup cases was reported as 0.054% [6]. In the United States, 4000 people per year are thought to be hospitalized for severe hiccups [5,9]. Generally, it is expected to be more common in the male gender and those with comorbid diseases [10]. More than 90% of patients in studies are men gender [5,9]. Psychogenic hiccups are more common in female gender [4,9]. Its incidence is expected to increase with age [4]. It is more common especially in patients with gastrointestinal and central nervous system diseases [9]. Its incidence is reported as 3.9-4.5% in cancer patients and 8-10% in patients with gastroesophageal reflux [6]. In studies, it has been reported that recurrent hiccups are observed in more than 20% of Parkinson's patients and more than 10% in gastric reflux patients and 3% in the control group [9,11].

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holding, breathing by closing the nose, movements that increase carbon dioxide such as the Valsalva manoeuvre, some methods with reducing nasopharyngeal irritation such as drinking water and ice application, washing the face with cold water, some manoeuvres reducing diaphragm irritation such as pulling the knees to the chest [8,10].

Table 2: Physical Maneuvers and Therapies for Acute Hiccups Attack		
Nasopharyngeal or Esophagal Stimulation	**Respiratory Manoeuvres**	**Vagal Stimulation**
Sugar swallowing	Breath-holding	Carotid massage
Ammonia Inhalation	Valsalva manoeuvres	Cold compress
Lemon biting	Maximal inspiration	Frighting the patient
Stimulation with ice water		
Intranasal vinegar application		

In cases that it is resistant, if there is an underlying organic cause, that situation should be tried to be corrected first. However, a definitive organic disorder may not be detected. As a medical treatment, treatment with many active substances has been reported. In the choice of medical treatment, physicians tend to start treatment according to their experience and specialities [10]. Chlorpromazine (the only FDA approved drug), metoclopramide, gabapentin, benzodiazepine, baclofen can be used [10]. In some individual case reports, intradermal injection of a mixture of thiocolchicoside and lidocaine has been reported to be beneficial [8]. Decompression of the vagal nerve may be considered in cases resistant to medical therapy. It has been reported that an epidural block has been applied to C3-5 [9]. The phrenic nerve can be blocked temporarily with the help of anaesthetic agents or radiofrequency [16]. Studies are reporting the use of a diaphragm-stimulating pacemaker [7]. The last resort is denervation of the phrenic nerve [1]. It has been reported that acupuncture [10] or hypnosis is used among alternative medicine methods.

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Chapter 7

LAPAROSCOPIC SURGERY FOR LARGE GALLSTONES

Kenan BİNNETOĞLU[1]
Serhat DOĞAN[2]

INTRODUCTION

Laparoscopic cholecystectomy is one of the most frequently performed operations in surgical clinics and is the gold standard in the treatment of symptomatic gallstones. In recent years, ultrasonography has become a rapidly accessible and frequently performed examination method, leading to an increase in the asymptomatic stone incidence. Treatment of asymptomatic stones is controversial, however, cholecystectomy is also recommended in asymptomatic patients in some cases (1-3).

High-risk factors for gallbladder cancer are particularly the presence of polyp larger than 1 cm, porcelain gallbladder, and gallstones larger than 3 cm, the gallbladder being full of stones, and living in settlements where the rate of incidence is high (2,4,5). Cholecystectomy is also recommended in such cases.

The presence of large stones in the gallbladder may cause difficulty both during manipulation and removal of the stone and gallbladder outside the body. The aim of this study was to present patients with gallstones of 3 cm and larger, who were operated in our clinic, in the light of literature data.

MATERIAL AND METHOD

We retrospectively evaluated the files of 21 patients undergoing elective laparoscopic cholecystectomy between January 2016 and December 2019 in the General Surgery Department of Malatya training and research hospital. Preoperative ultrasonographic findings showed that the size of the gallstones was 3 cm or larger in all cases.

Data were obtained from computer records, personal surgery book, polyclinic registration system, and epicrisis reports of the patients. We obtained written informed consent from all patients prior to the operation and obtained the

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Chapter 8

ANATOMY OF DORSALIS PEDIS ARTERY

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CLINICAL SIGNIFICANCE AND VARIATIONS OF DORSALIS PEDIS ARTERY

When the anterior tibial artery passes the ankle, it is called dorsalis pedis artery (DPA). DPA advances between the first and second digits and gives the branches of first dorsal metatarsal artery and deep plantar artery. DPA is located superficially in the areas where it is crossed by inferior extensor retinaculum of the foot and the first tendon of extensor digitorum brevis muscle. DPA pulse can be palpated with extensor digitorum longus muscle on the outside and between the tendons of extensor hallucis longus muscle on the inside.

Branches of DPA

1-The lateral tarsal artery: It separates from DPA at the level of os naviculare. After extending to lateral over the tarsal bones and deep extensor digitorum brevis muscle, it anastomosis with arcuate artery, anterior lateral malleolar artery, lateral plantar artery and perforating branch of fibular artery.

2- The medial tarsal arteries: They branch off as 2-3 thin branches at the media edge of the foot and participate in the formation of medial malleolar network.

3-Arcuate artery: It is the branch of DPA to the lateral. It extends outwards on the bases of metatarsal bones and under extensor tendons. It gives three branches called dorsal metatarsal arteries (II-IV). These are divided into three branches (dorsal digital arteries) on the digits.

4-Dorsal metatarsal artery-I: It is the branch DPA gives before passing to the sole of the foot. It is called dorsal digital artery when it reaches the digits.

5-Deep plantar artery: This vein, which is in the form of the continuation of DPA, passes between the two heads of dorsal interossei muscle-I from the first metatarsal space and joins lateral plantar artery and they form the plantar arch.

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In the dissection study they conducted on 42 cadavers, Rajeshwari et al. found that in 54.76% of the cases, DPA and its branches had normal course, while 9.52% did not have DPA. They found that 16.67% of the cases did not have arcuate artery and 14.29% had variations in the branching of DPA (23).

In the dissection study they conducted on 72 cadavers, Dilandro et al. found that 16.7% of the cadavers had arcuate artery, which is an important branch of DPA (24).

In their study they conducted on 50 legs, Vijayalakshmi et al. stated that 76% of the cases had arcuate artery (13).

In the dissection study they conducted on 30 cadavers, Yamada et al. found that 6.7% of the cases did not have DPA, while 33% did not have arcuate artery. In the same study, they found that in 6.7% of the cases, DPA was a continuation of peroneal artery. They also found that in 54% of the cases, the DPA crossed under the extensor hallucis tendon at the ankle and in 3% of the cases, it crossed below the ankle, which suggested that the segment distal to the ankle is the optimal site of DPA anastomosis on the foot (25).

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