

Retrospective Analysis of 53 Cases who Developed Colon Fistula

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Özet:

Kolon kanseri kadın ve erkeklerde sık görülen kanserler arasındadır. Rezeksiyon sonrası anastomoz ayrılması istenmeyen bir durumdur. Anastomoz kaçağı gelişmesine etkili çeşitli risk faktörleri vardır. Elliüç kolon anastomoz kaçağı olgusu retrospektif olarak çalışmada yer almıştır. Bu hastalarda demografik özellikler ve yandaş hastalıklar retrospektif olarak değerlendirilmiş ve risk faktörleri literatür ile karşılaştırılmıştır. Elliüç olgudan otuz vakada ek hastalık tespit edilmiştir. En çok tespit edilen yandaş hastalık diabetes mellitus(DM) ve hipertansiyon(HT) olup daha az sıklıkta ise kronik obstruktif akciğer hastalığı(KOAH) vb kronik hastalıklar tespit edilmiştir. Fistül gelişen hastalarda mortalite oranı %11 olup mortal olgularda genellikle DM ve HT birliktelik göstermektedir. KOAH'lı hastalarda yetersiz alveoler ventilasyon ve bunun sonucunda hipoksi ve hiperkapni, doku onarım süreçlerinde olumsuz etkiye sahiptir. Mikro sirkülasyondaki değişiklikler ve hastanın diyabetes mellitus (DM) ile ilişkili enfeksiyona daha fazla duyarlılığı postoperatif fistül gelişiminde risk faktörüdür. DM ile birlikte obezite de mevcut ise anastomoz kaçak riski daha da yüksek olabiliyor. Preoperativ diastolik yüksek basınç , anastomoz kaçak riskini arttıran diğer bir faktördür. Sonuç olarak hipertansiyon, obezite, diabet, KOAH , kolorektal cerrahi sonrası anastomoz kaçaklarında etkili risk faktörleridir. Bu risk faktörleri morbidite ve mortalite artışında etkili olmaktadır.

Anahtar Kelimeler: Colon, cancer, Anastomosis, Leakage, Fistula

Abstract:

Colon cancer is among the most common cancers in men and women. Separation of anastomosis after resection is undesirable. There are various risk factors affecting the development of anastomotic leakage. Fifty-three cases of colon anastomotic leakage were included in the study retrospectively. Demographic characteristics and co-morbidities in these patients were evaluated retrospectively and risk factors were compared with the literature. Additional disease was detected in thirty of fifty-three cases. The most common co-morbidities are diabetes mellitus (DM) and hypertension (HT), while less frequent chronic diseases such as chronic obstructive pulmonary disease (COPD) have been detected. Mortality rate is 11% in patients who develop fistula, and DM and HT usually coexist in mortal cases. Inadequate alveolar ventilation and consequently hypoxia and hypercapnia have negative effects on tissue repair processes in patients with COPD. Changes in the microcirculation and the patient's greater susceptibility to diabetes mellitus (DM)-related infection are risk factors for the development of postoperative fistula. If obesity is present together with DM, the risk of anastomotic leakage may be even higher. Preoperative diastolic pressure is another factor that increases the risk of anastomotic leakage. In conclusion, hypertension, obesity, diabetes, COPD are effective risk factors for anastomotic leakage after colorectal surgery. These risk factors are effective in increasing morbidity and mortality.

Key words: Colon, cancer, Anastomosis, Leakage, Fistula

Introduction

Colon cancer is among the most common cancers in men and women. Colonoscopy is the recommended and frequently used diagnostic method for the prevention and early diagnosis of colon cancer. Thanks to colonoscopy, early diagnosis of colon cancer can be achieved, while polypectomy can prevent cancers that may develop from polyps¹.

Colon cancer surgery is one of the most frequently performed cancer surgeries, as colon cancer is frequently seen. For this reason, the problems related to these surgeries affect more people in the society. In proportion to the frequency of surgeries, the interest of scientists in research on this subject is increasing. Colon fistulas have an important place among the effective factors in morbidity and mortality after surgical treatment of colon cancer. While medical treatment is sufficient in some cases after fistula development, in some cases reoperation may be required for fistula treatment. Fistulas may heal with medical-surgical treatment or may cause mortality. There are various predisposing risk factors for fistula development. One of these risk factors is comorbidities. Concomitant risk factors were examined in our series^{2,3}.

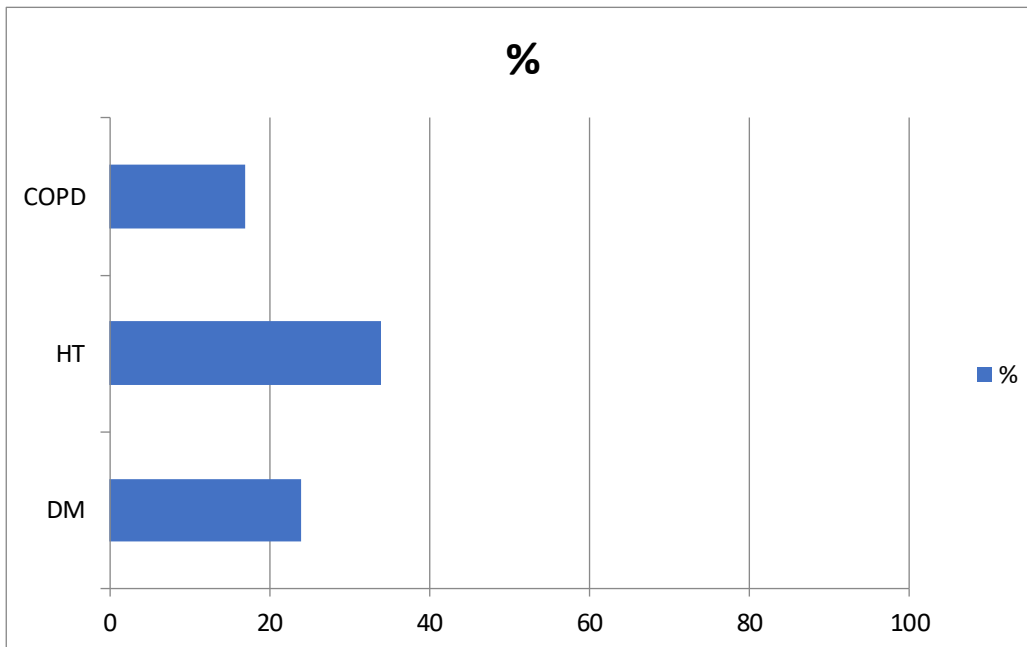
Materials and Methods

Fistula cases seen in our colorectal cancer patient who was operated in Tepecik EAH Surgery Clinic between January 1, 2012 and January 1, 2020 were retrospectively analyzed. The demographic characteristics of the patients in our fistula series, co-morbidities were examined and discussed in the light of the literature. Our study was approved by the Tepecik Training and Research Hospital Medical Faculty Ethics Committee.

Result

Between January 1, 2012 and January 1, 2020, 602 colorectal cancer cases were operated in our clinic. Fistula developed in 53 of these patients. The rate of fistula development in our series was 8.8%. The female/male ratio is 25/28. The average age was found to be 61 ± 12 year. Additional disease was detected in 30 of 53 cases. A comorbid condition was detected in some of these 30 cases and more than one comorbid disease in others. Diabetes Mellitus (DM) was detected in 13 (24%) cases, Chronic Obstructive Pulmonary Disease (COPD) was detected in 9 (16,9%) cases and Hypertension (HT) was detected in 18 (33,9%) cases (**Table 1**). Chronic diseases such as coronary artery disease, etc. have been detected much less frequently.

Table 1: Comorbidity ratios in colonic fistula cases



In our series of 6 patients who died in the first month postoperatively and developed fistula, the mortality rate was 11%. No additional disease was detected in 2 cases in Ex patients. HT and DM

were the most common comorbid conditions in the remaining 4 cases. Tumor localizations in our fistula series were determined as follows: 36 rectum, sigmoid 5, left colon 2, right colon 5, cecum 5.

Discussion

Colorectal cancers are among the most frequently performed oncological surgical operations in surgical practice. Compared to the past, more advanced levels have been reached in the diagnosis and treatment of colorectal cancer. Thanks to the diagnostic methods applied today, earlier diagnosis is possible. Colorectal cancers are most common in men (56.8%). The rectum is the most common (55%) site of colorectal carcinoma. The incidence of cancer in other colon segments is less 4,5.

In our fistula series, fistula was most common in males. A positive correlation was observed between the prevalence of colorectal cancers in males and the higher incidence of fistula in males. Fistula was most commonly seen after rectal Ca surgeries. The most common cancer location in the colorectal region is the rectum, and the postoperative fistula location is the rectum ^{6,7,8,9}. In cases of colorectal cancer, anastomotic leakage after resection may lead to local peritonitis, generalized peritonitis, and sepsis and may lead to a mortal course. In some clinical studies, the mortality rate due to anastomotic leakage was reported as 12.9%. This rate was found to be 11% in our series ¹⁰. Comorbidities have effects on morbidity and mortality. Chronic obstructive pulmonary disease is a common condition in the elderly. Insufficient alveolar ventilation and consequently hypoxia and hypercapnia have negative effects on tissue repair processes in patients with COPD. Experimental studies have shown that hydroxylation of collagen fibrils interacts with hypoxia, resulting in insufficient mechanical resistance. In a clinical study, it was observed that the rate of postoperative colon fistula development was higher in patients with COPD ^{11,12}. In our fistula series COPD was found of 16,9% Changes in the microcirculation and the patient's greater susceptibility to diabetes mellitus (DM)-related infection are risk factors for the development of postoperative fistula. DM is an effective factor contributing to the development of anastomotic leakage after colon anastomosis. In clinical studies, if obesity is present together with DM, the risk of anastomotic leakage was found to be even higher. In our fistula series DM was found of 24% . In addition, obesity, protein-calorie malnutrition, acute and massive anemia, and blood transfusion can be counted among the effective factors in the development of fistula ^{11,13,14}.

Hypertension is an undesirable condition. It causes many complications in the human body. One of these complications is its effects on colorectal surgery. Preoperative diastolic pressure is a factor that increases the risk of anastomotic leakage. In our fistula series HT was found of 33,9% It has

been reported that preoperative diastolic pressure higher than 90mmHg and significant intraoperative hypotension (more than 40% decrease in diastolic pressure) are risk factors for the development of anastomotic leakage^{15,16}.

Conclusion

In conclusion, in the presence of risk factors, the development of anastomotic leakage can be seen in colorectal surgery. When we examine our series in the light of literature review, hypertension, obesity, diabetes, COPD are effective risk factors in anastomotic leaks after colorectal surgery. These risk factors are effective in increasing morbidity and mortality.

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