

Fedir Grynchuk, Fedir Grynchuk Jr, Viktor Yordica

Bukovinian State Medical University, Chernivtsi, Ukraine

INTRODUCTION

It is known that comorbidity significantly affects the development of diseases. Diabetes and obesity are common diseases. These diseases often occur in emergency abdominal surgery.

METHOD

We conducted a retrospective analysis of the results of treatment of 88 patients. 33 patients had diabetes. 25 patients were obese. In 17 patients, diabetes was combined with obesity. 26 patients had no comorbidities. 28 patients had acute small intestinal obstruction. 22 patients had acute appendicitis. 18 patients had gastroduodenal perforation. 20 patients had acute cholecystitis. All patients were operated on.

RESULTS

We found that patients with diabetes and obesity had an increased frequency of postoperative complications. Postoperative wound suppuration occurred in 2.3% of patients without comorbidity and in 7.8% of patients with diabetes and obesity ($p < 0.05$). Leakage of anastomoses occurred in 1.7% of patients without comorbidities and in 4.3% of patients with diabetes and obesity. Local postoperative peritonitis was present in 1.07% of patients without comorbidities and in 1.24% of patients with diabetes and obesity. Diffuse postoperative peritonitis was present in 0.93% of patients without comorbidity and in 1.92% of patients with diabetes and obesity ($p < 0.05$). Incisional hernia within 1 year after surgery was present in 3.09% of patients with diabetes and obesity. Patients without comorbidities did not have an incisional hernia for 1 year. 1 (14.28%) patient with acute small intestinal obstruction without comorbidities died. 5 (23.81%) patients with acute small intestinal obstruction and diabetes and obesity died. 2 (11.11%) patients with acute appendicitis and diabetes and obesity died. Patients with acute appendicitis without comorbidity did not die. 2 (18.18%) patients with gastroduodenal perforation and diabetes and obesity died. 1 (14.28%) patient with gastroduodenal perforation without comorbidity died. The cause of death was abdominal sepsis.

CONCLUSION

Therefore, diabetes and obesity are significant risk factors in emergency abdominal surgery. This should be taken into account when treating such patients. But the prognostic scales that are currently known are not sufficiently informative. Therefore, it is necessary to develop new prognostic scales. Such scales should be developed separately for each type of abdominal surgical disease.

REFERENCES

- Ali MR, Maguire MB, Wolfe BM, Assessment of Obesity-Related Comorbidities: A novel scheme for evaluating bariatric surgical patients. *J Am Coll Surgeons*. 2006;202:70-7.
- Beltrán-Sánchez H, P. Jiménez M, Subramanian SV. Assessing Morbidity Compression in two cohorts from the Health and Retirement Study. *J Epidemiol Community Health*. 2016;70(10):1011-16.
- Chandna SM, Schulz J. Is there a rationale for rationing chronic dialysis? A hospital based cohort study of factors affecting survival and morbidity. *BMJ*. 1999; 318:217-23.
- Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. *J Chronic Dis*. 1987;40(5):373-83.
- Doran H, Patrascu T. Acute Abdomen in Diabetic Patients - What Should We Do?. *Chirurgia (Bucur)*. 2018;113(5):593-602.
- Elixhauser A, Steiner C, Harris DR, Coffey RM. Comorbidity measures for use with administrative data. *Med Care*. 1998 36(1):8-27.
- Greenfield S, Apolone G, McNeil BJ, Cleary PD. The importance of co-existent disease in the occurrence of postoperative complications and one-year recovery in patients undergoing total hip replacement. Comorbidity and outcomes after hip replacement. *Med Care*. 1993;31(2):141-54.
- Grynchuk FV, Polianskyi IYu, Maksymyuk VV, Grynchuk AF. Komorbidna patolohiya v nevidkladnyy abdominal'nyy khirurgiyi (na prykladi hostroho perytonitu) [Comorbidity in emergency abdominal surgery (using an example of acute peritonitis)]. Chernivtsi: Publishing BSMU; 2018. 262 p. [in ukrainian]
- Guo Q, Chen Y, Yang L, et al. Influence of Early-Onset Peritonitis on Mortality and Clinical Outcomes in ESRD Patients with Diabetes Mellitus on Peritoneal Dialysis: A Retrospective Multicenter Study. *Blood Purif*. 2022;51(3):280-87.
- Kaplan MH, Feinstein AR. The importance of classifying initial co-morbidity in evaluating the outcome of diabetes mellitus. *J Chronic Dis*. 1974;27(7-8):387-404.
- Linn BS, Linn MW, Gurel L. Cumulative illness rating scale. *J Am Geriatr Soc*. 1968;16(5):622-6.
- Liu J, Xie H, Ye Z, et al. Rates, predictors, and mortality of sepsis-associated acute kidney injury: a systematic review and meta-analysis. *BMC Nephrol*. 2020 Jul 31;21(1):318.
- Norris JC, Van der laan MJ, Lane S, Anderson JN, Block G. Nonlinearity in Demographic and Behavioral Determinants of Morbidity. *Health Serv Res*. 2003;38(6 Pt 2):1791-818.
- Núñez SA, Lacal V, Núñez J, et al. Antibiotic Resistance in Community-Acquired Intra-Abdominal Infections: Diabetes Mellitus as a Risk Factor *Surg Infect (Larchmt)*. 2020;21(1):62-8.
- Piccirillo JF, Creech CM, Zequeira R, Anderson S, Johnston AS. Inclusion of comorbidity into oncology data registries. *J Reg Manag*. 1999;26:66-70.
- Popejoy MW, Long J, Huntington JA. BMC Infect Dis. Analysis of patients with diabetes and complicated intra-abdominal infection or complicated urinary tract infection in phase 3 trials of ceftolozane/tazobactam. 2017;17(1):316.
- Salvi F, Miller MD, Grilli A, Giorgi R, Towers AL, Morichi V, et al. A manual of guidelines to score the modified cumulative illness rating scale and its validation in acute hospitalized elderly patients. *J Am Geriatr Soc*. 2008;56(10):1926-31. DOI: 10.1111/j.1532-5415.2008.01935.x.
- Tan DJH, Yaow CYL, Mok HT, et al. The influence of diabetes on postoperative complications following colorectal surgery. *Tech Coloproctol*. 2021;25(3):267-78.
- Tan, D.J.H., Yaow, C.Y.L., Mok, H.T. et al. The influence of diabetes on postoperative complications following colorectal surgery. *Tech Coloproctol*. 2021;25:267-278.
- Tergast TL, Laser H, Gerbel S, et al. Association Between Type 2 Diabetes Mellitus, HbA1c and the Risk for Spontaneous Bacterial Peritonitis in Patients with Decompensated Liver Cirrhosis and Ascites. *Clin Transl Gastroenterol*. 2018;9(9):189.

CONTACT

fedir.grynchuk@bsmu.edu.ua