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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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قسم

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Correlation between surgical site infection and obesity after exploratory laparotomy in trauma patients

Retrospective cohort study

Submitted for fulfillment of Master degree in General surgery

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List of Abbreviations

BMI	: Basal metabolic index.
DALYs	: Disability-adjusted life years.
SSI	: Surgical site infection.
NHSN	: National Healthcare Safety Network.
CDC	: Center for disease control.
NNIS	: National Nosocomial Infections Surveillance.
HAIs	: Hospital-acquired infections.
WHO	: World Health Organization.
DEXA	: Dual-energy x-ray absorptiometry.
CT	: Computed tomography.
MRI	: Magnetic resonance imaging.
BIA	: Bio-impedance analysis.
PAD	: Peripheral artery disease.
COPD	: Chronic obstructive pulmonary disease.
FTO gene	: Fat mass and obesity associated gene.
DSM	: Diagnostic and statistical manual of mental disorders.
LH	: Lateral hypothalamus.
VMH	: Ventromedial hypothalamus.
NPY	: Neuropeptide Y.

AgRP	: Agouti-related peptide.
POMC	: Pro-opiomelanocortin.
CART	: Cocaine- and amphetamine-regulated transcript.
ASA	: American society of anesthesiologists.
SENIC	: Study on the Efficacy of Nosocomial Infection Control.
NRC	: National Research council.
IDSA	: Infectious Diseases Society of America.
APSIC	: Asia Pacific Society of Infection Control.
RCTs	: Randomized controlled trials.
SD	: Standard deviation.

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Abstract

Background: Obesity has become a major contributor to the global burden of chronic disease and disability. Understanding the effect of obesity on the incidence of wound infections and other wound complications remains incomplete despite considerable attention to both the growing ‘‘epidemic’’ of obesity and the frequent occurrence of surgical site infection (SSI) after surgical procedures. Damage-control laparotomy specifically has been associated with a higher rate of infectious complications and a lower rate of primary fascial closure in obese patients.

Aim of the work: The aim of the study is to evaluate the correlation between obesity and surgical site infection (SSI) in patients undergoing exploratory laparotomy after abdominal trauma.

Patients and methods: A retrospective study performed on obese patients of both genders aged between 18 and 60 years old undergoing exploratory laparotomy after abdominal trauma at the surgery departments of Ain Shams University Hospitals, Al-Bank Al-Ahly Hospital, Al-Mataria Hospital and Al-Salam Hospital, Cairo, Egypt for two years (1st of January 2018 to 1st of January 2020). Patients with infected wounds, receiving antibiotic therapy at the time of injury, those with a known immunodeficiency, who died within 48 hours after injury, who had sustained burn injuries, who underwent surgery at

another institution before admission to our hospital were excluded. The rate of 30-day SSI post-operatively among obese and non-obese patients were compared. Statistical analysis was also done.

Results: Out of 782 patients, only 480 of those patients for whom BMI data were available, 360 (75%) were males and 120 (25%) were females. Out of the 480 patients: 168 patients had BMI more than 30; 114 patients (67.8%) had SSI (P< 0.05), 312 patients had BMI less than 30; 61 patients (19.5%) had SSI. All of the included patients were fulfilling the inclusion and the exclusion criteria. On multivariate analysis, obesity was the strongest predictor of SSI (odds ratio = 1.59; 95% confidence interval, 1.32-1.91) after adjustment for sex and age. Obese patients with SSI compared with the non-obese had longer hospital stays (mean, 9.5 vs 8.1 days, respectively; *P* <.001) and markedly higher rates of hospital readmission (27.1% vs 6.5%, respectively; *P* <.001).

Conclusion: Obesity is considered as one of the risk factors in causing surgical site infection. Thus, this study showed the relation of BMI and obesity with surgical site infection in case of exploratory laparotomy after abdominal trauma.

Key words: Obesity, BMI, Surgical Site Infections (SSIs).