Supplemental Digital Content, Appendix 1. *Detailed definitions of the variables.(24)*

|  |  |
| --- | --- |
| **Variable** | **Detailed definition** |
| **Age** | Age, expressed in years, was coded into nine equal frequency grouping intervals from 18 years old to 90 years old for multivariate analyses.  |
| **BMI** | BMI was calculated by dividing weight (pounds) by measured squared height (inches) multiplied by 703 and categorized as 1) underweight (<18.5 kg/m2), 0) normal weight (≥18.5 to <25 kg/m2), 2) overweight (≥25 to <30 kg/m2), 3) obese class I (≥30 to <35 kg/m2), 4) obese class II (≥35 to <40 kg/m2), 5) obese class III (>40 kg/m2). 29,245 subjects had missing BMI.  |
| **Smoking** | Smoker within one year prior to surgery (yes/no). |
| **Ethnicity**  | Ethnicity was classified as 1) White, 2) Black, 3) Asian or Pacific Islander, 4) Hispanic and 5) Unknown/Other. Missing ethnicities (14.5%) were coded into the Unknown/Other. |
| **Diabetes**  | Diagnosed with diabetes mellitus with a treatment regimen of oral anti-diabetic agents or insulin. Variables were coded as 0) no diabetes, 1) diabetes with insulin therapy and 2) diabetes with non-insulin therapy. One missing case was classified as ‘no’. |
| **Dyspnea**  | Defined as difficult, painful or labored breathing and classified as dyspnea at rest, at moderate exertion, or none. One missing case was classified as the ‘none’ category. |
| **Chronic obstructive pulmonary disease (COPD)** | Diagnosis of or history of severe COPD (yes/no), with the following criteria: A) Functional disability related to COP, B) Chronic bronchodilator therapy for COPD, C) Hospitalization due to COPD, D) FEV1 less than 75% within 30 days prior to surgery |
| **Clostridium Difficile Infection (CDI)** | No active CDI at the time of principal operative procedure, and at least one of the following documentations in the medical record: a positive Clostridium Difficile laboratory up to 30 days postoperatively, OR the patient is receiving current treatment for CDI. Laboratory tests include stool cytotoxin test, stool culture, glutamate dehydrogenase enzyme immunoassay or latex agglutination, enzyme immunoassay for toxins A&B, and polymerase chain reaction assay. Treatments include fecal enemas, oral and/or intravenous antibiotics, or surgical treatment (for fulminant/uncontrolled CDI). CDI is only assigned once per 30 days.  |
| **Ventilator dependency** | Subjects requires ventilator-assisted respiration during the 48 hours preceding surgery (yes/no). |
| **Ascites** | Intraperitoneal fluid collection within 30 days prior to surgery (yes/no), diagnosed either by physical examination, ultrasound, CT or MRI. |
| **Congestive heart failure** | New diagnosis of congestive heart failure or chronic congestive heart failure within 30 days prior to surgery (yes/no). |
| **Hypertension**  | Hypertension requiring antihypertensive drugs within 30 days prior to surgery (yes/no). |
| **Acute renal failure** | Acute renal failure within 30 days prior to surgery (yes/no). |
| **Currently on dialysis** | Pre-operative acute or chronic renal failure, requiring one (or more) of the following therapies: hemodialysis, peritoneal dialyses, hemofiltration, ultrafiltration or hemodiafiltration (yes/no). |
| **Disseminated cancer** | Metastasized or disseminated cancer (yes/no). Patient had received treatment within one year prior to surgery, was elected not to be treated or was deemed untreatable. |
| **Open wound (with or without infection)** | Open wound at the time of surgery, breaching the integrity of the skin or separation of skin edges (yes/no). |
| **Steroid use for chronic condition** | Requirement of regular administration of immunosuppressant medications or oral or parenteral corticosteroid 30 days prior to surgery (yes/no). |
| **>10% weight loss in the past 6 months** | More than 10 % weight loss in 6 months prior to surgery (yes/no). |
| **Bleeding disorder** | Patient with condition that imposes risk for excessive bleeding due to deficiency of blood clotting elements, which requires hospitalization (yes/no). |
| **Transfusion** | Loss of blood requiring transfusion during the 72 hours prior to surgery (yes/no). This includes blood transfusions in the emergency room**.** |
| **Systemic sepsis** | Systemic inflammatory response syndrome, sepsis or septic shock prior to surgery (yes/no). One missing case was classified as ‘no’. |
| **Functional health status** | Patient's abilities to perform activities of daily living30 days prior to surgery, categorized as 1) Independent: no requirement for assistance from another, 2) Partially dependent: requirement for some assistance, 3) Totally dependent: requirement of total assistance for all activities of daily living and 4) Unknown: unable to ascertain functional health status. One missing case was coded into ‘Unknown’. |
| **American Society of Anesthesiologists (ASA) classification** | American Society of Anesthesiologists (ASA) physical status classification system, classified as follows: ASA 1) Normal healthy, ASA 2) Mild systemic disease, ASA 3) Severe systemic disease, ASA 4) Severe systemic disease that is a constant threat to life and ASA 5) Moribund patient, not expected to survive without surgery*.* Missing ASA classifications (0.26%) were coded as a separate group ‘None assigned’. |
| **Wound classification** | Wound prior to surgery was classified by as 1) Clean, 2) Clean/Contaminated, 3) Contaminated and 4) Dirty/Infected. |
| **Sodium (mmol/L)** | Sodium was classified as 1) low when <135 mmol/L and 2) high when >145 mmol/L. All other values, including 19.9% missing, were considered within normal range.  |
| **Blood Urea Nitrogen (BUN) (mg/dL)** | Bun was classified as 1) high when >25 ml/dL. All other values, including 23.1% missing, were considered within normal range.  |
| **Creatinine (mg/dL)** | Creatinine was considered 1) high when >1.5 mg/dL. All other values, including 19.1% missing, were considered within normal range.  |
| **Albumin (g/dL)** | Albumin <3.3 g/dL was considered 1) low. All other values, including 49.3% missing, were considered within normal range.  |
| **Bilirubin (mg/dL)** | Bilirubin was considered 1) high when >1.0 mg/dL. All other values, including 49.9% missing, were considered within normal range. |
| **Serum glutamic oxaloacetic transaminase (SGOT) (U/L)**  | SGOT was categorized as 1) high when >40 U/L for men, and >32 U/L for females. All other values, including 50.1% missing, were considered within normal range.  |
| **Alkaline phosphatase (U/L)** | Alkaline phosphatase was considered 1) high when >115 IU/L for males and >100 U/L for females. Other values, including 49.6% missing, were considered within normal range.  |
| **White blood cell (WBC) (K/uL)** | WBC was considered 1) low when <4.5 K/uL and 2) high when >11.0 K/uL. All other values, including 17.0% missing, were considered within normal range. |
| **Hematocrit (%)** | Hematocrit was considered 1) low as <41% in males and <36% for females. All other values, including 15.7% missing, were considered within normal range.  |
| **Platelets (K/uL)** | Platelets were categorized as 1) low when <150 K/uL and 2) high when >400 K/uL and as. All other values, including 17.1% missing, were considered within normal range.  |
| **Partial thromboplastin time (PTT) (seconds)** | Platelets were categorized as 1) high when >33 seconds. All other values, including 69.2% missing, were considered within normal range. |
| **International Normalized Ratio (INR)** | INR was considered 1) high when >1.1. All other values, including 59.7% missing, were considered within normal range.  |
| **Prothrombin (PT) time (seconds)** | PT was categorized as high when >14.5 seconds. All other values, including 99.8% missing, were considered within normal range.  |
| **Work Relative Volume Unit (RVU)** | Based on volume of Current Procedural Terminology and Healthcare Common Procedure Coding System codes and used as an indicator of operative complexity. (26, 27) RVU was coded into five equal frequency grouping intervals for multivariate analyses: 0.00 to <9.45, ≥9.45 to <13.18, ≥13.18 to <17.61, ≥17.60 to <21.87 and ≥21.87 to 93.0. |
| **Operation time** | Total operation time in minutes. Missing operation time (n = 139; ≤ 0.01%) was imputed using age, gender and surgical specialty. Operation time was coded into five equal frequency grouping intervals for multivariate analyses: >0 to ≤43 minutes, >44 to ≤70 minutes, >70 to ≤101 minutes, >101 to ≤157 minutes and >157 to ≤1440 minutes.  |
| **Emergency**  | Emergency case, as indicated by the surgeon or anesthesiologist in the operative note. Urgent or semi-elective cases were not considered emergencies. |
| **Type of anesthesia** | Principal anesthesia technique used, classified as general, monitored anesthesia care, regional/local/epidural/spinal and other/none. |
| **Surgical specialty** | Specialty of the primary surgeon performing the surgical procedure, classified as: 0) general surgery, 1) orthopedics, 2) gynecology, 3) vascular surgery, 4) urology, 5) neurosurgery, 6) plastic surgery 7) otolaryngology, 8) thoracic surgery and 9) cardiac surgery.  |
|  |  |