Perioperative risk factors for postoperative pulmonary complications after major oral and maxillofacial surgery with microvascular reconstruction: A retrospective analysis of 648 cases.

Abstract: Postoperative pulmonary complications (PPCs) are common and result in prolonged hospital stays, higher costs and increased mortality. However, data on the incidence and predictors of PPCs after major oral and maxillofacial surgery with microvascular reconstruction are rare. This retrospective analysis identifies perioperative risk factors for postoperative pulmonary complications (PPCs) after major oral and maxillofacial surgery with microvascular reconstruction. Perioperative data and patient records of 648 subjects were analyzed in the period of June 2007 to May 2013. PPCs were defined as pneumonia, atelectasis, pleural effusions, pulmonary embolism, pulmonary oedema, pneumothorax or respiratory failure. 18.8% of all patients developed PPCs. Patient-related risk factors for PPCs were male sex, advanced age, smoking, alcohol abuse, a body mass index >30, American Society of Anaesthesiologists grade higher than 2, pre-existent pulmonary diseases and preoperative antihypertensive medication. Among the investigated procedure-related variables, the length of the operation, the amount of fluid administration and blood transfusion and an impaired oxygenation index during surgery were shown to be
associated with the development of PPCs. Using a multivariable logistic regression model, we identified a body mass index > 30, American Society of Anaesthesiologists grade higher than 2 and alcohol abuse as independent risk factors for PPCs. Several perioperative factors can be identified that are associated with the development of PPCs. Patients having one or more of these conditions should be subjected to intensified postoperative pulmonary care.