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Title: Predictors of postoperative pulmonary complications in children undergoing cardiothoracic surgery

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Body: Background: Postoperative pulmonary complications (PPCs) following cardiothoracic surgery remained to be alarmingly high. This study was done to determine the risk factors associated with PPCs following cardiothoracic surgery in children 6 years old and below who underwent cardiothoracic surgery from November 1, 2010-October 31, 2011 at the Philippine Heart Center. Methods: A prospective cohort study was done among 120 patients. Thirty five risk factors were included. Outcome measures included postoperative pulmonary complications. Comparisons of categories between with and without postoperative complications were done using Chi-square and independent T-test for all continuous variables. All independent variables were entered into a binary logistic regression model. Results: The incidence of PPCs in this study is 73%. The history of respiratory tract infection (RTI), preoperative mechanical ventilation, high pulmonary artery pressure (PAP), hypercarbia, hemoconcentration, lymphocytopenia, prolonged protime, hypoalbuminemia, high ASA and RACHS -1 scores, prolonged postoperative mechanical ventilation, recovery room (RR) stay, pediatric intensive care unit (PICU) stay and length of postoperative hospital stay were associated with PPCs. Tidal breathing analysis was not found to be significantly associated with PPCs. Conclusion: Fourteen out of the 35 risk factors were associated with PPCs in children 6 years old and below. With the incidence of PPCs remaining to be high especially in the lower pediatric age group, knowing the risk factors of its occurrence is of paramount importance.