

Post-Anesthetic Recovery: The Best Moment to Apply Positive Pressure in Airway in Postoperative Bariatric Surgery

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Abstract : The application of positive pressure in airway can contribute to the restoration of lung volumes, capacities and prevent respiratory complications. The aim was to investigate the use of Bilevel Positive Airway Pressure (BIPAP) in morbidly obese in two moments in postoperative bariatric surgery: In the post-anesthetic recovery (PAR) and on the 1st postoperative day (1stPO). Twenty morbidly obese, aged between 25 and 55 years, underwent pulmonary function test and chest X-ray preoperatively and on the day of discharge (2nd day after surgery). They were randomly allocated in groups. GPAR: received BIPAP treatment in PAR, for an hour and G1stPO: received BIPAP for one hour, on the 1stPO. There were significant reductions in slow vital capacity (SVC) ($p=0.0007$), inspiratory reserve volume (IRV) ($p=0.0016$) and forced vital capacity (FVC) ($p=0.0013$) in the postoperative in GPAR and the expiratory reserve volume (ERV) remained ($p=0.4446$). In the G1stPO, there were significant reductions for: SVC $p<0.0001$, ERV $p=0.0191$, IRV $p=0.0026$ and FVC $p<0.0001$. Comparing between groups, the SVC ($p=0.0027$) and FVC ($p=0.0028$) showed significant difference between the treatments. However, the GPAR showed fewer declines of these capacities. To the ERV ($p=0.1646$) and IRV ($p=0.3973$) there was no significant difference between groups. The atelectasis prevalence was 10% for the GPAR and 30% for G1stPO, with significant difference between the proportions ($p=0.0027$). The lowest reduction in SVC and FVC happens when positive pressure is applied in PAR. Thus, the use of BIPAP in the PAR can promote a restoration of ERV and contribute to the reduction of atelectasis. FAPESP 2013/06334-8.

Keywords : atelectasis, bariatric surgery, physiotherapy, pulmonary function, positive pressure

Conference Title : ICO 2015 : International Conference on Obesity

Conference Location : London, United Kingdom

Conference Dates : May 25-26, 2015