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Title: Apneic oxygenation via nasal prongs at 10 L/min prevents hypoxemia during tracheal intubation for elective surgery

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Body: Introduction: Hypoxemia during airway management remains an important cause of morbidity and mortality. Oxygenation during intubation via nasal prongs may prevent critical desaturations (Anesthesiology 1988, J Korean Med Sci 1998). We evaluated the effectiveness of oxygen administration via nasal prongs during apneic period following induction of general anesthesia. Methods: We conducted a randomized, controlled, double-blind study in patients without significant cardiac or respiratory disease undergoing elective surgery (age 18-65, ASA I-III). Patients randomly received oxygen via nasal prongs at 0, 5, or 10 L/min. Following preoxygenation, general anesthesia was induced. At 90 seconds after induction, nasal prongs were applied and oxygen was delivered according to the experimental group. At 4.5 minutes post-induction the patients were intubated. Results: The study population consisted of 41 individuals, 14 in the 0 L group, 13 in the 5 L group, and 14 in the 10 L group. Significant difference occurred between the three treatments ($p=0.030$), across time ($p=0.028$), and the treatment effect across time ($p=0.017$). Mean PaO_2 was higher in the 10 L group than the 5 L group ($p=0.001$) and 0 L group at 4 minutes ($p=0.004$). Conclusion: Apneic oxygenation with 10 L/min compared to 5 L/min via nasal prongs demonstrated delay of desaturation and maintenance of higher PaO_2 levels during elective intubation.