Comparing Face Mask Ventilation Techniques in Edentulous Patients

Lower lip face mask placement outperformed standard face mask placement.

Face mask ventilation is often challenging in edentulous patients. Researchers in France compared standard face mask placement with a new technique, called "lower lip" placement, in edentulous patients who were undergoing general anesthesia for elective surgery. The lower lip ventilation technique is similar to standard face mask ventilation except that the caudal end of the mask is placed between the lower lip and the alveolar ridge.

Six experienced anesthesiologists performed two-handed face mask ventilation in 300 edentulous patients with oral airways. Standard face mask ventilation was performed first. If an air leak — defined as a difference of at least 33% between inspired and expired tidal volumes — persisted for five consecutive breaths, the mask was repositioned to lower lip placement.

Forty-nine patients (16%) had persistent air leaks with standard face mask placement. The median air leak was 400 mL, with median inspired and expired tidal volumes of 450 mL and 0 mL, respectively. After the mask was repositioned to lower lip placement, the median air leak decreased to 10 mL, with inspired and expired volumes of 450 mL and 400 mL, respectively.

Comment: The various techniques traditionally taught to assist with face mask ventilation in edentulous patients (e.g., leaving dentures in, packing the mouth with gauze) are associated with risk for aspiration. This study describes a simple, effective technique that should be considered a key tool when we are faced with this challenging clinical situation.

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