

Negative Pressure Pulmonary Edema after Septorhinoplasty

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Background: Negative pressure pulmonary edema is a rare form of non cardiogenic edema resulting from upper airway obstruction after orotracheal intubation. The high negative intrapleural pressure, generated by forced inspiration, leads to an imbalance between hydrostatic forces in the pulmonary capillary bed. This causes the disruption of the alveolar-capillary membrane, inducing interstitial and alveolar edema.

Case history: We report a case of negative pressure pulmonary edema in a patient admitted to our Emergency Department for acute respiratory failure after cosmetic rhinoplasty procedure performed about two hours before his arrival. Chest computed tomography scan showed bilateral fluffy shadows with normal cardiothoracic ratio. Treatment consisted of continuous positive airway pressure ventilation with positive end-expiratory pressure of 10 cm H₂O. Eighteenth hours later chest imaging demonstrated

the complete resolution of edema and the patient was discharged with full recovery on day 2.

Discussion: There are few cases in literature of pulmonary edema after septorhinoplasty surgery. The population having aesthetic surgery is young, with strong respiratory musculature and laryngeal reflexes. This leads to a greater pulmonary compliance and to the possibility to reach more negative intrathoracic pressures, resulting in an increased risk of negative pressure pulmonary edema.

References

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