

[ PICTURES IN CLINICAL MEDICINE ]

## Negative Pressure Pulmonary Edema

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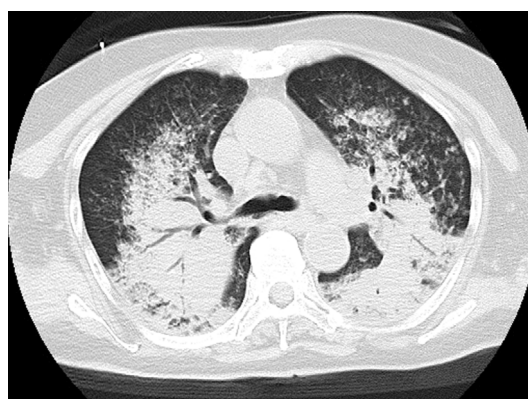
**Key words:** negative pressure, alveolar hemorrhaging, pulmonary edema

(Intern Med 57: 3673-3674, 2018)

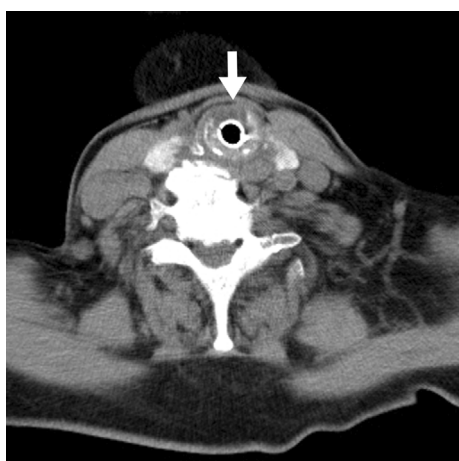
(DOI: 10.2169/internalmedicine.1286-18)



Picture 1.



Picture 2.



Picture 3.



Picture 4.

An 84-year-old woman was transferred to our hospital for intensive care. She underwent total hip arthroplasty under general anesthesia at the referring hospital. However, immediately after extubation, she had difficulty breathing, and her peripheral blood oxygen saturation decreased to 80%, necessitating reintubation. Upon arrival, her blood pressure was 165/89 mmHg, and her heart rate was 120 bpm. Coarse

crackles were present in all lung fields. Aspirated sputum was bloody. Chest X-ray (CXR) showed bilateral pulmonary consolidation (Picture 1). Computed tomography showed consolidation accompanied by air bronchogram. (Picture 2) and subglottic edema (Picture 3). Echocardiography demonstrated a preserved left ventricular ejection fraction (70%). Positive pressure mechanical ventilation was initiated. Methylprednisolone (20 mg for 4 doses) was administered. Two days later, CXR showed improved pulmonary consolidation, and she was extubated (Picture 4). Negative pressure pulmonary edema can rarely develop in patients with labored breathing in association with upper airway obstruction (1, 2), subsequently inducing alveolar hemorrhaging.

**The authors state that they have no Conflict of Interest (COI).**

### References

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2. Bhattacharya M, Kallet RH, Ware LB, Matthay MA. Negative-pressure pulmonary edema. *Chest* **150**: 927-933, 2016.

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*Intern Med* 57: 3673-3674, 2018