

Medical Image of the week: Endobronchial Valves



Figure 1. Bronchoscopic view of the endobronchial valves in the right upper lobe sub-segments.

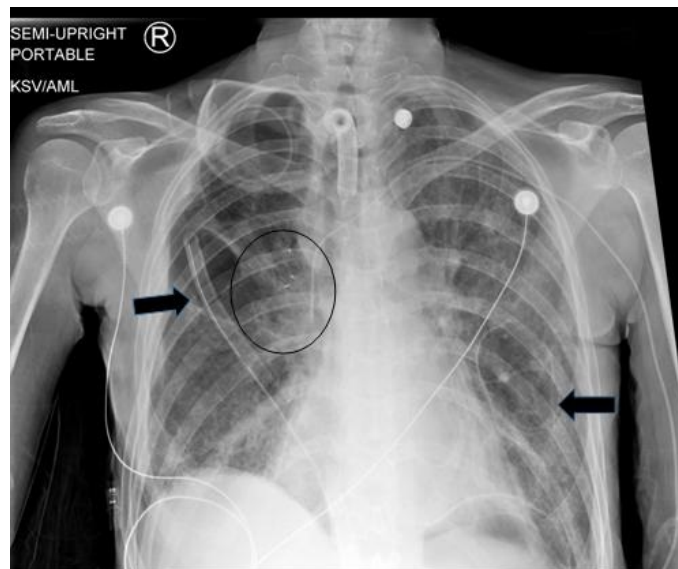


Figure 2. Post procedural chest x-ray shows the valves (encircled). Other findings on this chest x-ray include a tracheostomy tube, right sided chest tube, left sided PICC line. Bilateral pneumatoceles are also seen (arrows).

A 39 year-old woman was referred to our hospital for evaluation of persistent broncho-pleural fistula after severe necrotizing streptococcal pneumonia. She had undergone a segmentectomy for the necrosis resulting in the broncho-pleural fistula. Her overall medical condition and malnutrition precluded another major surgery such as a muscle flap for the persistent air leak. Endobronchial valve placement was attempted to minimize the gradient and leak across the parenchymal defect to promote healing.

A sequential balloon occlusion technique was used to localize the leak to the right upper lobe, which was the site of the previous surgery. The sub-segments were measured and three endobronchial valves (Spiration®, Olympus Respiratory, USA) (1). Valves of 5 mm, 6 mm and 7 mm – were placed in the three sub-segments of the right upper lobe (Figure 1) with a flexible bronchoscope. Near elimination of the air leak was seen post procedure. Figure 2 shows post procedure chest x-ray showing the three valves.

Removable endobronchial valves have been shown to be safe and effective in cases of persistent post-operative air leaks (2).

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References

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2. Gillespie CT, Sterman DH, Cerfolio RJ, Nader D, Mulligan MS, Mularski RA, Musani AI, Kucharczuk JC, Gonzalez HX, Springmeyer SC. Endobronchial valve treatment for prolonged air leaks of the lung: a case series. *Ann Thorac Surg*. 2011 Jan;91(1):270-3. [\[CrossRef\]](#) [\[PubMed\]](#)