Commentary: When spontaneous means threatening. The importance of thinking differently to prevent an unexpected, severe event

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The potentially serious complication of lobar torsion following pulmonary resection surgery is well known. Lobar torsion is defined as a parenchyma rotation on its bronchovascular pedicle that results in airway obstruction and vascular compromise. It may influence a single lobe or the entire lung. The true incidence of lobar torsion after pulmonary resection is difficult to determine. Keagy and colleagues noted an incidence of 0.3%, Larsson and colleagues described 4 cases in approximately 2000 thoracotomies (an incidence of 0.2%), and Cable and colleagues reported an incidence of 0.089%.

Many surgical procedures have been described to prevent this rare and possibly life-threatening complication. In accord with Wagner and Nesbitt, middle lobar torsion after right upper lobe resections is the most frequent, accounting for 70% of the cases in the literature, whereas nearly 15% follow resection of the left upper lobe.

The correct position of the remaining lobes should be confirmed cautiously. Then, fixation should be performed if little or no parenchymal bridge exists between contiguous lobes. Several techniques are described, including where the edges of the middle and lower lobes are grasped with a clamp and approximated along the course of the fissure, then sutured with a silk tie or stapled with an unsupported or reinforced Endo Gia universal stapler (Medtronic, Minneapolis, Minn) or Covidien TA 30 stapler.

Classic interlobular suturing is generally effective to adhere the lobes, but this could result in postoperative air leak, hemorrhage, and torsion due to detachment or laceration of both lobes. For this reason, several innovative techniques for preventing air leakage consist of synthetic polymers (eg, BioGlue [Cryolife Inc, Kennesaw, Ga] or Coseal [Baxter, Deerfield, Ill]) or pleural flaps. These techniques are generally applied for patients with emphysema, in whom sealant use is considered safer.

Nevertheless, spontaneous lobar and lung torsion are rare events. Ohde and colleagues wrote that approximately 10 cases of spontaneous pulmonary torsion have been reported in literature to date, and a few other experiences were added later. So, the frequency of these spontaneous event is difficult to assess. A prompt diagnosis is extremely important for conservative management, allowing a surgical lung-sparing procedure before the parenchyma is compromised by gangrene or ischemia. Unfortunately, spontaneous lobar torsion can derive from several unexpected causes, including anatomic variability of vessels, lack of an inferior pulmonary ligament, or pleural space expansion. Considering any possible pathogenesis, the timing of ischemic injury and parenchymal damage are not predictable and conservative surgical treatment seems not always to be possible. In fact, torsion could produce infarction, ischemia, or hemorrhagic engorgement and in these cases, lobectomy would be necessary.

This interesting experience of spontaneous bilobar torsion highlights the extreme importance of different...
thinking because surgeons have to consider all the possibilities to promptly detect a spontaneous, and potentially life-threatening event. As Albert Einstein once said, thinking differently is important because “everybody knows a certain thing is unrealizable until somebody unaware of this comes and invents it.” In front of an unexpected event, making a rare but possible diagnosis could save a lobe and a life!

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