General:
- Pulmonary edema is an uncommon complication of pregnancy.
- It usually occurs in the peri-partum period from a combination of factors, including mobilization of fluids and fluid administration, use of tocolytic treatment, and preeclampsia.

Tocolytics:
- Tocolytic treatment use is the most common cause of pregnancy-related pulmonary edema (26%). In most cases, multiple tocolytics that include a beta-mimetic agent are administered, probably inducing a significant increase in systemic vascular resistance.

Cardiac disease
- In a further 26%, pulmonary edema is related to a preexisting cardiac disease that is exacerbated during the peri-partum period and in combination with the large volume shifts during this period that induce pulmonary edema.

Fluid overload
- Fluid overload per se is the main etiology of pulmonary edema in 22% of patients. In these cases pulmonary edema is related to a large volume transfusion of approximately 6 L over a short period of time.

Preeclampsia
- Finally, preeclampsia is the main cause of pulmonary edema in 18% of cases. Preeclampsia causes pulmonary edema through a combination of cardiovascular (reduced left ventricular contractility and increased systemic vascular resistance) as well as noncardiovascular factors (endothelial damage leading to increased fluid leak into the alveoli).

Peripartum cardiomypathy
- Peripartum cardiomyopathy is an important entity causing pulmonary edema but should be listed among the causes of cardiovascular pulmonary edema.

- This syndrome occurs after the relief of either acute or chronic obstructions of the upper airways.
- The most common cause is relief of obstruction occurring during anesthesia, although other acute causes of upper airways obstruction such as epiglottitis, croup, foreign bodies, strangulation, tumors, goiter, vocal cord paralysis, and obstruction of endotracheal tubes have been reported.

- Pulmonary edema develops minutes to hours after the relief of obstructions, and its incidence may be up to 10% after acute obstructions and up to 40% after relief of chronic obstruction.

- The pathophysiology of postobstructive pulmonary edema is not known, but a combination of increased pulmonary capillary pressure owing to significant negative pressure during the obstructive period combined with hypoxia leading to decreased alveolar fluid clearance, increased systemic vascular resistance due to sympathetic overdrive, and stress failure of the alveolar-capillary membrane have all been postulated as possible causative mechanisms.

- Pulmonary edema may occur after evacuation of a large pneumothorax or pleural effusion.
- The pathogenesis is not known but leaks in the alveolar capillary membrane after prolonged atelectasis and rapid re-expansion are suggested by some authors. The treatment is symptomatic.

- The prognosis is not known, although in some older series a mortality of up to 20% was described.

Postoperative
- The most common cause of drug-induced pulmonary edema is the use of cardiodepressants such as beta-adrenergic blockers and some calcium blockers and antiarrhythmics.
- Pulmonary edema has been associated with the intake or toxicities of drugs that provoke edema through different mechanisms.

- The pathogenesis of postoperative pulmonary edema is diverse. Cardiovascular factors are major contributors to pulmonary edema in patients sustaining a postoperative myocardial infarction, whereas alveolar capillary leakage and reduced alveolar fluid clearance play a major role in postoperative pulmonary edema related to major infections.

- In the absence of predisposing risk factors, fluid overload may be the main reason for pulmonary edema.

- Pulmonary edema develops in 2.5% to 4.5% of patients after pneumonectomy.
- The pathogenesis of this syndrome is unknown. However, a combination of large fluid transfusion, excessive negative pressure in the operated hemithorax due to underwater suction systems, major lymphatic interation related to extensive surgery, and damage to the alveolar-capillary membrane have been implicated as possible causes.

- The fatality of this syndrome is significant, up to 85% in one series. Hence, prevention is of great importance.