Pulmonary Oedema in a Survivor of Suicidal Hanging

Dear Editor,

This is with reference to the case report titled 'Pulmonary oedema in a survivor of suicidal hanging' (MJAFI 2004;60:188-189). The authors need to be complimented for quality critical care work in a peripheral hospital, however certain points need clarification.

I agree with authors that a post-obstructive pulmonary oedema is a form of non-cardiogenic pulmonary oedema, but in the case described it does not appear to be the underlying cause. This patient was rescued and first taken to Station Medicare Centre then to hospital. For sometime she was unconscious and airway was unprotected. The possibility of aspiration can not be ruled out. Post-obstructive pulmonary oedema clears off within few hours of relief of upper airway obstruction and does not require prolonged ventilatory treatment. Therefore, it seems more likely to be a case of aspiration pneumonitis. Following attempted suicide there is sudden loss of consciousness due to cerebral hypoxia, which can induce vomiting and subsequent aspiration of gastric contents.

Reply

Dear Editor,

The authors wish to place on record their appreciation of the interest shown and queries rightly raised by the discerning reader.

As mentioned aspiration was possibly in a patient who was unconscious and had an unprotected airway. The patient was brought to the hospital via Medicare centre in left lateral position within an hour of the incident. In the ICU, the patient had copious pink frothy secretion. She was incubated and mechanical ventilation instituted.

Postoperative pulmonary oedema (POPE) was suspected for the following reasons:

- i) Post obstructive oedema occurred in a setting of acute airway obstruction (hanging). Development of pulmonary oedema was rapid and without warning. The patient was young and apparently healthy female [1]. POPE can occur within 60 mins of a precipitating event or the onset in some cases has been delayed up to 6 hours [2].
- ii) Presence of tachycardia, tachypnoea, frothy pink pulmonary secretions, rales and progressive oxygen desaturation suggests diagnosis of POPE in appropriate setting viz suicidal hanging here. Chest X-Ray finding of pulmonary oedema supports the diagnosis. Other causes of pulmonary oedema are also to be considered. History of normal cardiac function and occurrence of such symptoms in a vigorous young adult point to POPE. Gastric contents in pulmonary secretion were not ascertained, absence of which, would have undoubtedly supported the diagnosis of POPE.
- iii) Majority of cases of POPE respond to prompt, appropriate treatment. However there is a reported case of POPE in an otherwise healthy patient who progressed to acute respiratory distress syndrome and death [3].
- iv) In most reported cases treatment for POPE consists of supplemental oxygen and low levels of PEEP (5cms H₂O) yet it is not clear if PEEP is needed. In our case we used PEEP of 15cms H₂O tapered down to 10 by fourth day, 4cms H₂O by fifth day; extubated on sixth day. The use of PEEP was guided

Aspiration pneumonitis can produce fulminant pulmonary oedema immediately because of acidic nature of gastric contents. Later it can progress to acute lung injury, severity of which depends upon quantity and quality of gastric aspirate. Radiological findings of bilateral non-homogenous opacities persisting for almost a week is also suggestive of acute lung injury as a consequence of aspiration pneumonitis. However the diagnosis of acute lung injury could not be confirmed due to non-availability of blood gas analyzer. In aspiration pneumonitis clinical picture does not correlate with radiological findings as observed by authors.

In the discussion, authors have not described as to what led them to suspect and treat this as a case of post-obstructive pulmonary oedema.

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by SpO₂ monitoring. ABG was not available.

- v) Clinical findings in aspiration pneumonitis following aspiration of particulate matter depend on extent of endobronchial obstruction and range from acute apnoea to recurrent infection. Chest X-ray in aspiration is seen as infiltrates in one or both lower lobes. Resolution of radiological findings may take up to six weeks [4].

To conclude, though aspiration could have coexisted, our aim in putting up this case report was to highlight the possibility of POPE developing rapidly and without warning following acute airway obstruction. In a series of chest radiographs in children intubated for acute upper airway obstruction, 29 percent developed radiographic evidence of POPE[5]. While these series represent experiences in a tertiary care setting, the surprising frequency of POPE suggests that it is not rare. Rapid recovery can be expected with appropriate management if proper ventilatory and investigative facilities (ABG) are available.

References

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