

Cyst hydatid case ruptured after awake intubation causing difficult airway

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Abstract

Encountered throughout the history, the Cyst Hydatid is a parasitary disease caused by Echinococcus Granulosus. Cyst hydatid settles in the liver almost at a rate of 60% and about 30% in the lungs. The cysts settling in the lungs are generally solitary and asymptomatic. While the cyst hydatid of the lungs is often seen as solitary, the perforation rate occurring spontaneously in these cases was reported as 0.36%. The iatrogenic perforation is quite rare, like 1% in the studies. In the literature, we could not come across a cyst hydatid case ruptured due to intubation. In this article, we aimed to present a cyst hydatid case that was operated on due to diaphragmatic hernia, instantly getting ruptured after intubation and causing a difficult airway.

Key words: intubation, cyst hydatid, difficult airway, ruptures late onset,

Introduction

Encountered throughout the history, the cyst hydatid is a parasitary disease caused by Echinococcus Granulosus. Its prevalence in Turkey is presumed to be around 50 per 100 thousand (1). Cyst hydatid settles in the liver almost at a rate of 60% and about 30% in the lungs. The cysts settling in the lungs are generally solitary and asymptomatic (2). However, it provides findings in some patients with a symptom or a perforation due to pressure. Perforations may be usually spontaneous or iatrogenic (traumatic, surgical) (3, 4).

In the literature, we could not come across a cyst hydatid case ruptured due to intubation. In this article, we aimed to present a cyst hydatid case that was operated on due to diaphragmatic hernia, instantly getting ruptured after intubation and causing a difficult airway

Case

A 64kg -male patient aged 78 and planned to be taken under operation due to his right diaphragmatic hernia was preoperatively evaluated. His physical examination and laboratory parameters were normal. In his thorax CT, a 72x58mm thick-walled cavitory lesion containing a solid component in the apical upper lobe of the left lung was monitored (Figure 1). The case was taken under operation without performing a premedication. In the operating room, a routine anesthesia monitorization was performed.

His blood pressure was measured as 145/79mmHg, whereas his heart rate was 85 beats/minute and the oxygen saturation was 94%. Then 0.9% fluid was placed through a vascular access. After administering 1mg- iv midazolam to the case, an anesthetic induction with 2.5µg/kg fentanyl, 2mg/kg propofol and 0.6mg/kg rocuronium was performed. An endotracheal intubation with a 37F left-sided double-lumen tube was performed, as well, and the tube level was verified. After observing that both lungs were normally ventilated, the case was strapped to a mechanical ventilator. When the case was given a right-side position for the surgery, first a pressure increase in the mechanical ventilator and then an insufficient tidal volume was noticed.

The pressure was immediately brought under control by performing manual respiration to the case. It was seen that there was a severe resistance in the airways. The left lung sounds/beats could not be received by merely listening. The case had a ventilation problem. The peripheral oxygen saturations dropped down to 72%, whereas the blood pressure went down to 84/50mmHg. The case was given a supine position, an aspiration in tube was performed, and an intraoperative chest radiography (X-ray) was taken. (Figure 2). The left lung was determined to have been totally closed. Then an aspiration with a physiological saline solution was performed once again. A large amount of serous fluid was aspirated. The peripheral oxygen saturations rose up to 92%.

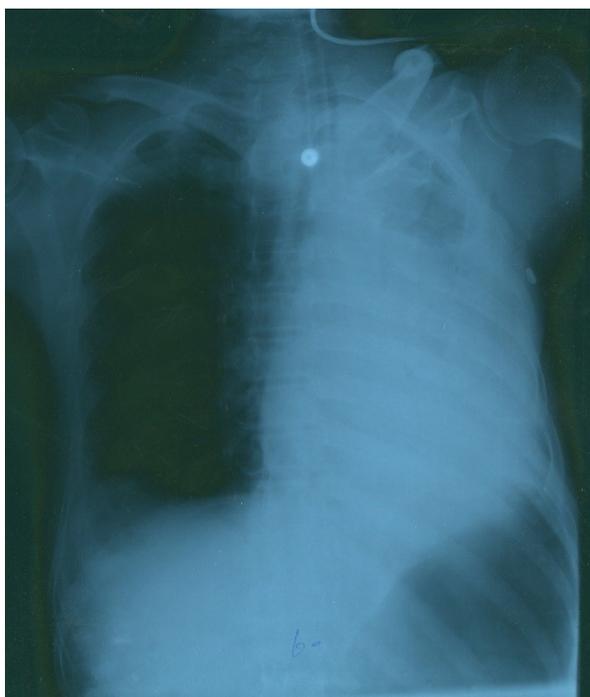


Figure 1: In his thorax CT, a 72x58mm thick-walled cavitary lesion containing a solid component in the apical upper lobe of the left lung

It was understood that the cyst hydatid in left lung was ruptured. The case was administered with both an intravenous fluid replacement and intravenous 80mg methylprednisolone (Prednol-L, Mustafa Nevzat, Turkey) along with 40mg pheniramine maleate (Avil, Sandoz, Turkey) for anaphylaxis prophylaxis. A diagnostic bronchoscopy was performed on the patient, and the cyst content was aspirated. The surgery was postponed to be performed under elective conditions. The case was brought to the intensive care unit in intubation. The case received a mechanical ventilation support for 24 hours as well as an inotropic support treatment for 48 hours since the course of the process was hypotensive. He was then referred to the 3rd day-service department after his clinical picture and hemodynamics recovered.

Discussion

Cyst hydatid is a parasitosis capable of arresting all the organs, notably the liver most frequently. It may occur in any organ, such as the lungs, kidneys, bile ducts, mesentery, brain and the soft tissue (5). It is a health issue still seen in Turkey. The incidence of cyst hydatid in the Turkish society is reported as 1/2000 (6). People contract this disease primarily by getting in contact with the dogs carrying the disease or by consuming contaminated foods. The most affected organs are the liver and the lungs (7).

While the cyst hydatid of the lungs is often seen as solitary, the perforation rate occurring spontaneously in these cases was reported as 0.36%. The iatrogenic perforation is quite rare, like 1% in the studies (4,8).



Figure 2: intraoperative chest X-ray radiography

Gunay et al. (9) report that only one out of 16 cyst hydatid cases they treated due to a traumatic rupture in 12 years was settled in the lungs. Şahin et al. (10), on the other hand, stated that in only one case out of 80 cyst hydatid cases had a rupture due to a blunt trauma been determined.

The case we have presented was taken under operation due to diaphragmatic hernia, and right after the intubation was the cyst in the left lung perforated. No surgery had been performed on the case, nor was an interventional action except for the intubation done. For this reason, we are of the opinion that the cyst was spontaneously perforated.

In the literature, perforated cyst hydatid cases seen under anesthesia were reported (7). Yet, no spontaneous perforation associated with intubation was encountered. Apart from this, the point to be taken into consideration in the first place in the cases in which the cyst is perforated is the possibility of the development of anaphylaxis.

When the cyst is perforated, the cyst fluid of high antigenic characteristic permeates into the blood circulation, and anaphylaxis may occur as the result of histamine release (7). In perforated cases, it is advised that anaphylaxis prophylaxis be performed, and measures be taken to protect hemodynamics (1).

In our case, following the consideration on perforation, the anaphylaxis prophylaxis was practised, and a fluid treatment for protecting the blood pressure was performed. However, a hypotension developed in the case in question, and thus, an inotropic support was given in the intensive care unit.

Conclusion

In conclusion, cyst hydatid may be spontaneously perforated in the patients in intubation during unexpected moments. Therefore, we wished to emphasize the fact that cyst hydatid is a serious parasitosis likely to cause difficult airways and anaphylaxis

Conflict of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. This study was accepted as a poster presentation in 20th International Intensive Care Symposium - ICISTANBUL 2015, May 8-9, 2015, Istanbul, Turkey.

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