Pneumomediastinum: Unusual Complication of Infection with Influenza A H1N1 (About a Case)

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Abstract: Influenza A (H1N1) is a viral infection which can be responsible of severe lung diseases. Mediastinal symptoms are rare especially pneumomediastinum. The aim of this work is to report a case of a young immunocompromised patient who was admitted to the intensive care unit for acute respiratory distress that revealed Influenza A H1N1 pulmonary infection with pneumomediastinum. The evolution was favorable.

Key words: Influenza A H1N1, pneumomediastinum, favorable evolution.

1. Introduction

Influenza A (H1N1) is a viral infection that can develop in pandemic mode and be responsible for a serious and severe pulmonary disease in a population at risk include immunocompromised. The authors report the case of a young diabetic patient admitted to the ICU for an hypoxic viral pneumonia complicated H1N1 flu pneumomediastinum.

2. Case Report

The authors report the case of a 25 years old female patient with type 1 diabetes using insulin who was admitted to the ICU for diabetic ketoacidosis decompensated by hypoxemic pneumonia. Two days before her admission she presented a cough with fever.

On admission, the patient was unconscious, Glasgow scale was at 11/15 without deficit. The respiratory frequency was at 24 cycles per minute, oxymetria was at 88% on ambient air and the patient was hemodynamically stable. The capillary glycemia was at 21.62 mmol/L with glycosuria and ketonuria front. Laboratory blood tests noted glycemia at 12.05 mmol/L, thrombocytopenia 86,000/mm³; leukopenia at 2,600/mm³, lymphopenia 360/mm³ without other abnormalities. Blood Gases noted Ph at 7.20, PaCO₂: 29 mmHg and PaO₂: 142 mmHg, HCO₃⁻: 11 mmol/L, arterial oxygen pressure /inspiratory fraction of oxygen (PaO₂/FiO₂): Quick 203. Test HIV was negative. Chest X Rays objectified bilateral extensive opacities. Bacterial balance (bronchial recurring, urinalysis, blood culture) was negative. The nasopharyngeal swab was positive for H1N1. Initial management was intubation and mechanical ventilation, antibiotics based initially on ceftriaxon 2 g per day and moxifloxacin 500 mg per day then adjunction of oseltamivir 75 mg twice a day. At day 7 of hospitalization, the review found extensive subcutaneous emphysema, Chest X Rays objectified minimal pneumothorax and pneumomediastinum.

Chest computed tomography showed foci of infectious pulmonary condensation, bubbles emphysema and pneumomediastinum (Figs. 1 and 2). At day 12 of hospitalization, Chest X Rays objectified the disappearance of pneumomediastinum. The patient had favorably evolved and was extubated at day 15.

3. Discussion

Influenza A viruses belong to the family Orthomyxovirus. In April 2009, Influenza A
pandemic occurred. High risk groups for complications are pregnant women, adults older than 65 years, children younger than 5 years, patients with underlying conditions such as diabetes mellitus, immunosuppression, chronic obstructive pulmonary, chronic renal failure, chronic liver or cardiovascular or neurological diseases. The most important complications are lower respiratory tract involvement which can evolve in worst to acute respiratory failure and respiratory distress syndrome with refractory hypoxemia, secondary invasive bacterial infections, septic shock and multiple organ failure syndrome [1-5].

The diagnostic test of choice is RT-PCR; samples must be collected through nasopharyngeal aspirate, or nasopharyngeal or pharyngeal swab, or, in the case of pneumonia, through the lower respiratory tract [1-4].

The predominant radiological findings are ground-glass opacities or areas of consolidation, bilateral opacities with involvement of multiple lung zones, some other may be associated aspects to surinfection as a pattern consistent with bronchopneumonia, including lobular, subsegmental or segmental consolidation [6-15]. Pneumomediastinum has rarely been reported as complication of influenza A H1N1 and this is the particularity of the case reported. The patient had diabetic mellitus and was highly included in group risk especially that it was poorly controlled before.

4. Conclusions

Influenza A (H1N1) may be associated with severe respiratory complications, type of bacterial infection and respiratory failure. Pneumomediastinum is a rare complication of influenza A (H1N1) secondary to bronchial obstruction or necrotizing pneumonia. The management of this complication was intensive care measures and anti-viral treatment with a favorable evolution.

Fig. 1 Chest computed tomography demonstrates patchy bilateral interstitial infiltrates, and peripheral ground-glass opacities and pneumomediastinum.
Fig. 2  Chest computed tomography exhibits bilateral, patchy, confluent areas of consolidation and pneumomediastinum.

References


