

**PP089 A NEAR FATAL SWIMMING  
EXPERIENCE RAPID  
DETERIORATION FROM ACUTE  
EXPOSURE TO CHLORINE**

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diagnosis & intensive monitoring in order to enable early pre-emptive treatment.

**INTRODUCTION:**

Chlorine (Cl<sup>17</sup>) is a toxic irritant, whereby inhalation may lead to upper and lower respiratory tract injury with sinister complications such as laryngeal oedema, acute respiratory distress syndrome (ARDS) and pneumonitis.

**CASE REPORT:**

A 27 years old, Chinese gentleman with no known medical illness presented with a complaint of cough and shortness of breath 5 hours after exposure to chlorine that was being poured into the water filter of the swimming pool in which he was swimming. Duration of exposure was 20 minutes. He also developed bilateral eye redness and minimal haemoptysis. Upon arrival he was peripherally cyanosed and tachypnoeic. His oxygen saturation was 78% under RA and about 88% under high flow mask. Other vital signs were stable. Lungs auscultation revealed bilateral crepitation up to midzone. Chest x-ray showed bilateral alveolar opacities. Bedside ultrasound revealed B-lines in bilateral lungs until upper zone. ABG showed a normal anion gap metabolic acidosis. Patient was initially put on CPAP with a PEEP of 10 and FiO<sub>2</sub> 1.0. The next three hours was uneventful with serial ABGs showing improvement in his P/F ratio. However, 12 hours post exposure, patient was intubated for worsening type 1 respiratory failure. He was then treated as ARDS. Improvement in his oxygenation was noted in ICU 23 hours after exposure. Patient remained ventilated for 70 hours during which his respiratory function gradually improved. He also had acute kidney injury on presentation which resolved 30 hours post exposure. He was discharged home well 6 days after exposure.

**DISCUSSION:**

Chlorine inhalation in this patient resulted in ARDS that deteriorated rapidly over hours in the emergency department. His rapidly progressive ARDS would require high & incremental PEEP, nebulized sodium bicarbonate, and inhaled steroids, apart from the regular treatment of ARDS.

**CONCLUSION:**

The symptoms of acute exposure to chlorine may develop in hours and progress rapidly. The risk of rapid deterioration entails prompt