

## **HOLIDAY TURNED NIGHTMARE: IMMERSION PULMONARY EDEMA AFTER SEA-WALKING**

### **Introduction**

Immersion pulmonary edema (IPE) is a rare and underrecognized condition that can develop in a patient who was involved in scuba diving, snorkeling, or surface swimming. We would like to report on a lady who presented with pulmonary oedema after sea-walking in Sabah during her vacation.

### **Case description**

A 59-year-old lady with underlying well controlled systemic lupus erythematosus (SLE), diabetes and hypertension presented with sudden onset shortness of breath, cough and pleuritic chest pain after sea-walking in one of the island near Kota Kinabalu. Upon presentation, the patient was tachypneic with an oxygen saturation of 70% and generalized crepitations during lung auscultation. There was no pedal edema to suggest a chronic etiology of fluid overload in addition to a normal renal and liver function test. Furthermore, the patient's electrocardiogram showed no signs of myocardial ischemia and her troponin I level was 40. Her chest x-ray showed features of pulmonary edema which was further supported by bedside ultrasound demonstrating B lines and a heart with impaired ejection fraction. She was managed with oxygen therapy (continuous positive airway pressure) and diuretics in emergency department. CTPA done revealed no evidence of pulmonary embolism and lung features of pulmonary edema. Her oxygen therapy was gradually tapered off and she was discharged well after 2 days.

### **Discussion**

Sea-walking is a watersport where the person involved wears a helmet with oxygen supply and descends gradually to the seabed (approximately 5 meters deep) and walk around for 30 minutes. The depth involved makes decompression sickness unlikely in this case. Pathophysiology of IPE is postulated to be due to immersion effect causing rapid distribution of blood from the extremities to the thorax, thus causing an increase in the pulmonary vasculature pressures. Patients with hypertension and of the female gender were found to have a higher prevalence in developing IPE.

### **Conclusion**

IPE is an underrecognized pathology in swimming and scuba diving activities. IPE should be differentiated from other diving related pathologies as systematic hyperbaric oxygen therapy is not required in the treatment of IPE.

### **Keywords**

Immersion pulmonary edema, sea-walking