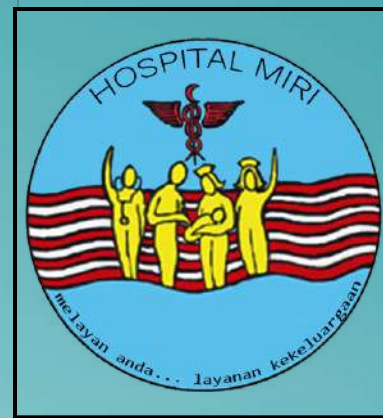


DECOMPRESSION SICKNESS IN MIRI WATERS

Poster
No.187

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INTRODUCTION

Decompression Sickness (DCS) is seen in the settings of diving, aviation, and space exploration. It is rare amongst recreational divers and commonly seen during the ascent phase¹.

CASE REPORT

A 33-year-old male was transported to the hospital after experiencing shortness of breath and loss of consciousness during his ascent from a 20-meter dive. He had been diving for 20 minutes with normal compressed air. After surfacing, he appeared to be confused, was coughing, and complained of a headache. He was transferred to the hospital via the prehospital care team with a non-rebreather 15L mask. He denied any blurring of vision, tinnitus, body weakness arthralgia, girdle-like chest pain, rash or pruritus. There was no dive log error found nor did he perform repeated dives recently. Examination revealed crepitations on the lower zone of his right lung, whereas other systems were unremarkable. His chest radiograph showed haziness of lower zone of bilateral lungs. Other initial investigations were normal. He was put in supine position, given intravenous fluids and the non-rebreather mask was continued. The next day, he was transferred to Sepanggar Armed Forces Hospital from the ICU via fixed-wing aircraft, flying at 1500 feet above sea level to received 3 cycles of hyperbaric oxygen therapy (HBOT) and discharged well.

DCS can be difficult to diagnose due to the myriad of symptoms from almost all systems. Hence, timely diagnosis and proper plan of treatment are vital, or the result could be catastrophic.

Decompression sickness is caused by the inflammatory and obstructive effects of inert gas bubbles in tissues and the vascular system. Type I is 'pain only' whereas in type II or 'serious' DCS, as in this case, pulmonary ('chokes'), cardiovascular, neurological, and vestibular ('staggers') signs and symptoms can manifest.

Pure oxygen serves to both improve tissue oxygenation and increase the partial pressure gradient favouring passage of nitrogen out of the bubbles formed during decompression². Additionally, prehospital and emergency department providers should ensure adequate fluid resuscitation to ensure no compounding effects of dehydration or shock physiology³.

Hyperbaric oxygen therapy is the mainstay treatment and locating a facility adds to the challenges in prompt management. The nearest center to Miri is Sepanggar and the mode of transportation was also an issue, in addition to having to cross the borders of Brunei. Opting for air transport invited questions on the safest altitude and cabin pressure without worsening the patient's condition. Limited literature suggests that cabin altitude to not surpass 500 feet⁴. However, this could vary based on time of flight and weather condition as the pilot's discretion is independent of medical decision-making.

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DECLARATION OF CONFLICT FOR ALL AUTHORS

The Authors declare that there are no conflict of interest.

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