RISKS OF RECURRENT DECOMPRESSION ILLNESS AFTER RECOMPRESSION THERAPY IN A DCI TYPE II PATIENT

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Introduction

The recurrence of Decompression Illness in a diver after recompression therapy following prohibited activities are a concern, as the remaining bubbles had a potential risk to enlarge due to mechanical, chemical or immunological response. Prohibited activities/ risks were air travel, mountaineering, alcoholism/ drug abuse, hot water bath and massages. We presented a case showed risks are perpetuated reccurent DCI.

Objectives

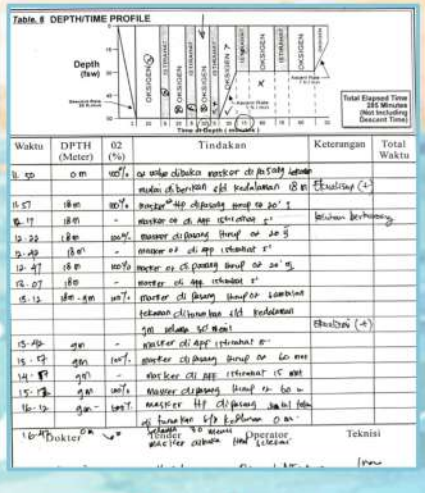
This study aimed to highlight the risk of recurrent Type II Decompression Illness (DCI) after recompression therapy and to underscore the importance of adherence to post-treatment precautions in preventing reactivation of residual gas bubbles.

Case Illustration

A 55-year-old woman developed numbness in the face, trunk, right arm, and right leg one day after a flight from Labuan Bajo to Lombok island. She also experienced fatigue, right-sided headache, occasional blurred vision, and chest discomfort. Six days earlier, she had completed three dives to a maximum depth of 25 msw in Labuan Bajo and underwent recompression therapy (USNTT 5) the following day for a post-dive headache, which initially resolved her symptoms. Two or three days later take a slip of cocktail, take spa massages. Her last activity before flight to Lombok was hiked up to 180 meters above sea level without issues, but during the subsequent flight, her current symptoms appeared.

On examination, she was fully conscious and in moderate distress, with BP 95/62 mmHg, HR 64 bpm, RR 20 bpm, SpO_2 99%, and normal motor function and visual acuity. We diagnosed DCI type II based on the history of dysbaric and neurological symptoms. She received 100% oxygen via a non-rebreather mask at 12 L/min, intravenous electrolyte infusion, and recompression therapy using the U.S. Navy Treatment Table 6 (USNTT 6). Chest X-ray, ECG, and arterial blood gas analysis were unremarkable.

Following therapy, her numbness improved, and she was admitted for 24-hour observation. She reported significant improvement the next day and was discharged in stable condition.



Discussion

Air travel is a major risk factor that can exacerbate or reactivate residual intravascular or extravascular gas bubbles. The cabin pressure of commercial aircraft is typically equivalent to an altitude of 8,000 feet (approximately 0.76 ATA), which significantly increases decompression stress. This pressure reduction may trigger the formation of new bubbles or the expansion of pre-existing ones in tissues that have not yet completely eliminated inert gas. In addition, activities such as alcohol consumption, drug abuse, hot baths, and massages are prohibited risks that may accelerate or sustain the recurrence of DCI. Information regarding the recommended waiting period before flying after recompression therapy remains limited and varies across sources. A clinical survey suggested a median waiting time of three days for mild DCI cases and five days for severe cases following treatment.

Conclusion

This case highlights the potential for recurrent decompression illness (DCI) following recompression therapy when prohibited post-treatment activities are undertaken. Air travel, alcohol consumption, massage, and even moderate altitude exposure may perpetuate or reactivate residual intravascular or extravascular gas bubbles, contributing to neurological manifestations of DCI. Strict adherence to post-recompression precautions and patient education on risk-avoidance behaviors are essential to prevent recurrence and optimize clinical outcomes in divers.

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