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Decompression Sickness Due to Flying After Diving

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Decompression Sickness (DCS) is caused by release of inert gas dissolved in blood and other tissues and formation of bubbles during diving due to inadequate decompression. The amount of gas dissolved in tissues is directly proportional to dive depth and time. The inert gas dissolved in the body is eliminated from the lungs in the decompression phase of the dive as the ambient pressure decreases. Gas bubbles can form in tissues if off-gasing is insufficient. Also, with further decrease in ambient pressure, a dive that is uneventful at sea level may cause DCS at high altitude or during air transportation. We present two patients who developed DCS during flight after recreational dives.

CASE 1: A 27-year-old woman with no previously known disease performed five dives in three days, two each in first two days and one in third day. During her flight which was 12 hours after the last dive the patient felt numbness and loss of strength at right shoulder, around right knee and on right leg. Her complaints persisted next day so the patient applied to Underwater and Hyperbaric Medicine Department. She was directly admitted to HBOT. Her symptoms improved during the initial session and completely resolved after 3 sessions.

CASE 2: A 27-year-old woman performed a single recreational dive to 40 mt for 35 minutes. She had significant amount of alcohol intake the night before the dive. Towards the end of the flight which was 12 hours after the dive she had pain around her right shoulder and applied to hospital directly after flight. There were no neurological signs on her physical examination. Her complaints resolved with US Navy Table 5 treatment.

Going up altitude either by flying or by land travel increases the risk for DCS. Further decrease in ambient pressure compared to sea level may cause formation of new bubbles or increase the size of present ones. A "no-fly time" is required after all dives. Decompression tables and dive computers calculate and show how long a diver should wait to fly. To avoid DCS in flying after diving, related rules of dive tables and dive computers should be followed.