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THE WORLD AS IT IS

UNUSUAL DECOMPRESSION ILLNESS
A case report

Peter Cardon

A 37 year old male student diver came to me on a Tuesday, referred by his diving instructor. On the Saturday and Sunday he had been training for an Open Water certificate. He took part in a pool session on Saturday morning and an open water dive to 15 m for 40 minutes in the afternoon. At the completion of the day's diving he was tired and had a mild headache but was otherwise well.

The following morning he took part in a further open water session and after some difficulty with weights he undertook a "tired diver" tow, an emergency ascent from about 6-10 m and an ascent using a secondary air source. The remainder of the dive was given to a successful hunt for crayfish.

The dive plan was for 40 minutes to a maximum depth of 15 m, however his depth gauge showed the maximum depth for the dive was 29 m. He had been working against some surge and was a bit cold toward the end of the dive. He made a comfortable ascent up an anchor warp and felt normal on arrival at the surface.

Within one minute of surfacing and releasing the warp to make his entry onto the dive boat he found his hands would not work for him. He had difficulty hanging onto the boat and managing his gear. Eventually he was helped aboard and fell into the boat where he lay helpless and vague. He described being unable to organise himself, he could not get his gloves off and his hands were clawed. He felt uncoordinated with "spasticity" of his limbs and an unpleasant feeling of entrapment in his wetsuit which verged on panic. He became aware of other divers in the water but his perception was impaired and he was troubled by glare. He felt numbness in his arms and chest. His distress was seen by another diver and the dive instructor was called.

A distinct improvement occurred over a few minutes after removal of the student's hood, however he had difficulty with speaking and complained that his legs felt heavy. It took about ten minutes to take the boat to the beach and by then he had recovered so much that he was able to hold the boat while gear was unloaded. However, ten minutes later he had nausea and vomiting so that the car had to be stopped twice during the half hour drive to town.

When he got home he went to bed. He got up once two hours later to vomit then felt better but had a frontal headache which lasted three hours more. No medication was taken. The following day (Monday) he was aware of slight fogging of his peripheral vision, a mild impairment of mental focus and his ears felt strange.

He had had a full medical for a Pilot's Licence in April 1993 and had been found to be quite fit.

On examination on Tuesday he gave a clear description of the events. He moved normally with no apparent impairment of gait, balance or co-ordination. Basic psychometrics showed some difficulty with simple arithmetic but a good performance with immediate recall, including having no difficulty with the Babcock sentence. A quite detailed neurological examination was within normal clinical limits.

Had I been able to find even a minor neurological abnormality he would have been sent off to Christchurch. However I felt that, as he was now symptom free and normal neurologically, there was a reasonable case to be made for resting and observing him over the next few days, as referral to the nearest Hyperbaric Medicine Unit would have involved many hours of travel and considerable disruption to his life. In the event he produced no sequelae.

At follow-up two months later the patient was well with no residual symptoms and stated that he had taken the personal decision not to dive again.

My interpretation of this history is that this student diver suffered an acute form of decompression illness, possibly cerebral arterial gas embolism, with significant transient cerebral ischaemia and no measurable residual impairment.

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