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THE WORLD AS IT IS

WAS IT DCS?

Russ Gately

Key Words

Biology, envenomation, decompression illness, marine animals, treatment

Our company was contracted to bury a submarine power cable running from Surabaya to Madura Island in Indonesia. The work started in late August 1996 and continued until early November. The diving crew was all commercial divers, with the least experienced member having 5 years in the business. Two members of the crew were diving medical technician (DMT) trained.

The work entailed setting up a jet sled on the cable, which was then pulled along the length of the cable and cut a trench, into which the cable settled. Visibility was zero throughout the job. There were strong currents which necessitated planning all diving operations to coincide with slack water periods.

On completion of a dive to check the progress of the operation, one diver complained of unusual sensations, described by him as "like electrical shocks".

The onset of these symptoms was within 20 minutes of surfacing and, over the next hour, the symptoms extended to involuntary muscle contractions, pins and needles in the hands and feet, general overall pain and nausea. These symptoms were treated as DCS related. The diver was put

on oxygen and transported to the hyperbaric facility at the Surabaya Naval Hospital.

As the diving supervisor, I was somewhat at a loss to explain why this diver should have DCS symptoms as the dive to 26 m for 18 minutes was well inside the no-decompression limit. The dive was routine with normal ascent and descent rates. The only incident was a minor jellyfish sting to the face while he was undressing. The diver complained that the sting was painful and a small welt was evident on his top lip. This was treated with vinegar and the pain and welt disappeared within 15 minutes.

On arrival at the hyperbaric facility the diver was seen by an Indonesian Navy doctor who had studied diving medicine at Aberdeen in the UK. After a brief consultation he was put into the chamber and a Table 5 was initiated. On arrival at 18 m he reported that he felt better but the "electrical shock" feeling was still present. On ascent to 9 m all the symptoms returned, however the table was continued without extension. The diver was admitted to the hospital on completion and given daily Table 5 treatments.

While all this was going on the diving work continued. Two days after the incident, I carried out a dive to check the sled. The position of the sled was marked by a buoy-line which was used as the downline with the dive boat secured to it. The dive was to 26 metres with a bottom time of 12 minutes. While I was ascending the down line I was stung by jellyfish tentacles which were entangled around the line by the current. The initial sting was to the back of

my hand but in the process of trying to shake off the tentacles, the coverall cuff came undone which exposed my inner forearm which was also stung. The pain was intense and can best be described as like red hot wire being pressed against the skin.

On arrival at the surface there were red welts where I had been stung. Vinegar was used and the pain and welts rapidly disappeared with no visible evidence after about 30 minutes. One of the dive crew jokingly remarked that, if I started getting electrical shocks, I could go and join my colleague in hospital. Within 30 minutes I was experiencing intermittent shocks from my fingers and toes which progressed to violent muscle spasms, chest pain, visual disturbances and generally feeling like I had insulted Mike Tyson. This time I definitely knew it was not DCS related.

I was transported to the Naval Hospital where I was admitted and spent the next 4 days. The treatment consisted of large amounts of intravenous fluids, infused anti-histamines and cortisone injections with pethidine for the pain.

In hindsight it was interesting to note the similarity of symptoms with the sting of this particular jellyfish and CNS DCS symptoms. Our divers now know that hyperbaric treatment of jellyfish stings is not appropriate. Our first aid kit now contains injectable antihistamine and corticosteroid, which we hope will never be needed. I have not been able to determine what type of jellyfish was responsible. Perhaps a SPUMS member may be able to decide from the symptoms listed.

In Des Gorman's lectures to my DMT course we were told to look beyond the obvious for other causes of similar symptoms. Very sage advice.

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The following report of inquest findings was provided by Mr E R Wessling, the Cairns Coroner, with permission for publication from the Human Rights and Administrative Law Division of the Queensland Department of Justice and Attorney General, GPO Box 149, Brisbane, Queensland 4001.

INQUEST INTO THE CAUSE AND CIRCUMSTANCES SURROUNDING THE DEATHS OF NICOLE HEIDEMARIE AHRENS AND FIONA WONG FINDINGS

Key Words

Barotrauma, cerebral arterial gas embolism, death, legal and insurance, pulmonary barotrauma, recreational diving.

For the purpose of assisting the relatives and lay persons at this inquest I indicate that where an inquest into a death is held, it is held for the purpose of establishing, so far as practicable, the fact that a person has died, the identity of the deceased person, when, where and how the death occurred and the person, if any, to be charged with murder, manslaughter, the offence of dangerous driving causing death or any offence set out in Section 311 of the Criminal Code as might be appropriate to the particular circumstances.

The Coroners Act requires that a Coroner give his or her findings in open Court and that the findings shall set forth so far as has been proved who the deceased was, when, where and how the deceased came to his or her death, the persons, if any, committed for trial. Subsection 5 of Section 43 provides that a Coroner shall not express any opinion any matter outside the scope of the inquest except in a rider designed in an appropriate case to prevent the recurrence of similar events.

No findings of a Coroner may be framed in such a way as to appear to determine any question of civil liability or as to suggest that any particular person is found guilty of any indictable offence or simple offence. So it is important that it be understood that any comments I make here on the evidence and the findings are made with those matters in mind.

The inquest is in relation to two diving incidents that occurred upon the Great Barrier Reef. The first occurring on 24 August 1994 at Upolu Cay involving the vessel *Sanduria* operated by Kevin Martin and Elizabeth Martin under the name of Sanduria Sail and Dive. The later occurring on 2 December 1994 at Michaelmas Cay involving the vessel *Compass* operated by John Heuvel under the name of Hostel Reef Trips.

This inquiry follows a more recent inquest conducted by myself into snorkelling activities undertaken by charter boat operators upon the Great Barrier Reef. The findings of that inquiry resulted in the implementation of a Code of Practice for Recreational Snorkelling.

The deaths of Nicole Ahrens and Fiona Wong have raised concerns about the present Code of Practice pertaining to recreational scuba diving which has become