

LETTERS TO THE EDITOR

Hospital Road,
Ramputs 458118,
Mandsour (MP),
INDIA,

Dear Sir,

In the June-September 1979 issue of the Journal Dr Dries Jones reported "Discussion of a case of Pulmonary Barotrauma". I find some of the aspects of treatment puzzling.

1. There is no mention of the IV infusion regime, which all authorities now recommend as an adjunct to the treatment of neurological decompression sickness.
2. Why was a diuretic given as almost inevitably a diver is dehydrated when he emerges from the water?
3. The administration of a diuretic to a patient with a paraplegia without the precaution of catheterization is surprising. In this man it led to 2 hours of the symptoms of urinary retention which are highly uncomfortable if not more accurately described as acutely painful. The physiological changes accompanying pain, vasoconstriction and sweating, can hardly help with the elimination of inert gas.
4. I think that the man was allowed to resume diving too soon. It is known that the neurological scars of the illness increase susceptibility for further neurological incidents. There are even some centres where a man would be prohibited from diving again.

Yours sincerely,
MY KHAN

A copy of this letter was sent to Surgeon Captain Jones, whose reply is printed below.

Navy Medical Centre
Simonstown
Republic of South Africa 7995

Dear Sir

As regards to Dr. Khan's letter some background information seems necessary. This accident happened during September 1975.

At that stage no guidelines for medical ancillary treatment for decompression accidents were laid down at our diving school.

Due to various unsatisfactory aspects in the management of the case a broad regimen of treatment has been drawn up.

This regimen is at presently under review. The relevant portions follow.

6. DECOMPRESSION ACCIDENTS

a. General

- i. The call for medical treatment for a decompression accident will take one of two forms:
 - (a) The diver has already been transported to a two-compartment chamber and full therapeutic decompression facilities will be available.
 - (b) The victim will be within 5 hours travelling time from a two compartment chamber. Preliminary medical care and resuscitation will be needed before transport to the chamber.
- ii. If the patient is transported in an ambulance he may under no circumstances receive Entenox: Entenox increases the bubble size, aggravating the condition.
- iii. Decompression accidents might be complicated by hypothermia and/or near-drowning. In these circumstances concurrent treatment for these and the decompression accident will have to be carried out in priority to severity.

- b. Specific treatment for cases away from a two-compartment chamber:-
(NB. The treatment (from 6.b.i. to 6.b.ix) is for all serious cases of decompression sickness and air embolism. Type I cases - where pain is the only symptom present - only 6.b.i., 6.b.iv., and 6.b.viii.)

- i. Let the diver inhale 100/per/cent oxygen from the resuscitator; this tends to hasten the inert gas elimination from the body.
- ii. The diver would already have received the following medication (see 2.b.);
 - Valium 5mg - 2 tablets
 - Soluble Aspirin 300mg - 2 tablets
 - Vitamin C 250mg - 2 tablets
 - Methyl Prednisone (Medrol 16mg) - 2 tablets.
- iii. In the case of the unconscious diver:
 - assure a clear airway
 - assist ventilation if indicated
 - assist cardiac function if indicated.
- iv. Put up a reliable intravenous line and start infusion with Dextran 40
 - First Vacoliter (500ml) to run in 30 minutes
 - second Vacoliter of Dextran 40 during the next 30 minutes and
 - third Vacoliter of Dextran 40 after 6 hours, to run in within 2 hours.
- v. Administer Dexamethasone 100mg intravenously through the tubing of the Dextran drip (decadron Shock

Pack). Follow up every 6 hours with Decadron 8mg (one 2ml ampoule) intravenously.

- vi. Administer 50ml of 50 per cent dextrose with the first drip. Do a Dextrostix evaluation and repeat when necessary.
- vii. Catheterise the unconscious patient or the diver with urinary retention and check urinary output. It should be over 60ml/hr. Monitor pulse and blood pressure to avoid over infusion.
- viii. Urge the conscious diver to drink at least 250ml of fluid every 45 minutes.
- ix. Administer Heparin 2000 units intravenously every 6 hours.

c. Treatment of decompression accidents in a hyperbaric chamber.

- i. Never put an unconscious diver in a one-compartment chamber.
- ii. Start therapeutic decompression as soon as possible according to the laid-down therapeutic tables.
- iii. In all serious cases of decompression sickness - that is type II with serious neurological and respiratory symptoms institute medical treatment (6.b.i.) to (6.b.ix.) as prescribed.
- iv. In the less serious case just continue the first aid treatment as prescribed (2).
- v. In cases where respiratory symptoms get worse on decompression, an underwater drain may have to be inserted in the chamber. The necessary equipment is in the pannier.

The specific points mentioned by Dr Khan:

- 1. The same IV infusion regime as per appendix 6.b.iv. has been followed.
- 2. The Lasix was given ten hours after the diving accident. The rationale being that his cerebral symptom were caused by cerebral oedema. It will however be noted that no Lasix is used presently due to haemoconcentration and the danger of disseminated intravascular coagulation.
- 3. This point is well taken. It will be noted that our treatment regime has been altered after this incident.
- 4. The question of fitness for diving after decompression accidents, involving the neurological system, has not been spelled out clearly. Our present approach to the problem is as follows:

If any neurological residue persists for twelve weeks after the accident we declare the person as unfit to dive again. It may however be too dogmatic in a diver with eg,

loss of sensation of a big toe.

It seems only feasible to assess every case individually and restrict their diving accordingly.

(AG JONES)
Surgeon Captain
OC NAVY MEDICAL CENTRE

SEA ULCERS - IT'S TIME FOR SOME PREVENTIVE
MEDICINE
Martin Bowerman

Skin infections known as 'sea ulcers' are a major problem for fishermen in northern Australia. Prawn fishermen in particular suffer from these painful and long-lasting sores

They might begin as apparently insignificant cuts or scratches, but soon flare into weeping sores that just refuse to heal. They may last weeks, even months, and, when eventually they do clear up, ugly purple scars and sensitive skin remain. From personal experience I know how painful and annoying these ulcers are.

Sometimes even the irritation of a pair of shorts or rubber boots is enough to give entry to bacteria and commence the cycle of infection. In fact many fishermen, when standing knee-deep in the sorting tray shovelling prawns, refuse to wear rubber boots or any other form of footwear - despite the fact that the sorting tray might also hold sea snakes or stonefish hidden amongst the prawns. They prefer to risk the slight possibility of a fatal bite or painful sting, rather than the almost certain ulcers that follow irritation of the skin by boot tops.

Fishermen working in the Gulf of Carpentaria and other remote areas have few opportunities to see a doctor, but even medical treatment often has little effect on the ulcers. Some fishermen are forced to spend weeks ashore - away from salt water and away from their livelihood - before the ulcers finally heal.

Sea ulcers thus represent a serious problem for individual fishermen and the industry in general.

Therefore everyone involved in the fishing industry, particularly in northern Australia, should read the following article. It has been written by Dr John L Reichelt, a microbiologist with the drug company Roche Products Pty Ltd, who is studying various types of marine bacteria. He explains probable causes and possible cures for sea ulcers.

A list of 'dos and dont's' can be compiled from the article, but basically he suggests fishermen should keep their skin clean of marine bacteria. They can do this with special disinfectants, used regularly, probably after each session at the sorting tray. Arms and legs should be washed. A tub or sink could be provided somewhere between the back deck and the accommodation and filled with disinfectant solution each day.