

A FATAL DIVE

Dr FM Cave

This diver 'V' spent the day before he died getting his hookah and other gear ready. He may have had some beer before tea late that afternoon but certainly did not go out after his tea.

He left his home at about 5.15 am in company of two others, 'A' and 'B'. The boat was launched about 7.15 am and they arrived at the dive site off an island an hour later. Diving was commenced without delay using two hoses from the hookah equipment in the boat. 'V' dived to the bottom and was followed by 'B' using the other mouthpiece, the latter waiting till he saw 'V' reach the bottom. 'B' glimpsed 'V' occasionally for about two minutes, lost sight of him for about two minutes then saw him swim past about 20 ft away, coming from behind him on a 45 degree angle and swimming level within a couple of feet of the bottom. He then swam out of 'B's sight. 'B' continued looking at coral until about two minutes later when he saw 'V's speargun standing vertically, spear down, with the point of the spear resting on the bottom. He swam over to the gun and found also a flipper on the bottom nearby, so he picked up both articles and surfaced. At the surface he dropped them and peeled off his own flippers.

'A' had remained in the boat with the motor. He estimated that 'V' was submerged for about 8-10 minutes before he saw him swim across and check the boat anchor and then swim to the end of the line. Soon after 'V' came up and called, apparently in distress though the engine's noise prevented his words being heard. 'V' went under again for a moment, then resurfaced and called again. He probably had his mouthpiece out and his mask on his forehead the first time he surfaced and it was certainly out when he went under the second time. 'A' pulled him to the boat with the hose. He probably became unconscious about 8-10 ft from the boat. 'A' could not lift him into the boat unaided (he weighed about 12 stone). His eyes were half open and turned back. There was clear froth spurting from his nose and mouth but no unusual smell or vomit. He was pale.

'B' swam over and tried to help lift him into the boat from the water but had to come aboard himself before 'V' could be lifted in. The purge button of the mouthpiece was tried and found to work normally. Mouth-to-mouth resuscitation was tried. There was some difficulty in getting the boat's engine started before they could take 'V' ashore to the island's resort. There a nurse confirmed that death had occurred.

I interviewed the victim's father and the two companions on the dive, also examining the equipment, establishing the following facts:-

- 'V' was in very good health, physical and mental. He had been diving for at least six years and started to use scuba about six years ago. He bought the hookah new about two years before this accident.
- 'V' had told 'B' "never hold your breath while using hookah, always breath normally, don't rise faster than your bubbles", he had taught him to clear his mask and to remove and replace his mouthpiece underwater.
- 'B' does not remember being instructed in free ascent but may have been told "if you have to ditch, breath out before coming up". I am told that 'V' had attended lectures on these subjects given by myself. Such is the only indication we have as to the extent of 'V's knowledge.

'B' had been shown how to use hookah equipment in a swimming pool but had never previously dived in the sea either with snorkel or hookah. He is intelligent, healthy

and in his early twenties. 'V' was 29 years old. 'A', the man left in the boat, had never dived.

Equipment was ordinary petrol driven compressor with air intake from a flexible pipe about 10 foot long placed over the front windscreen of the boat. The boat engine's exhaust was a two foot pipe extending vertically from the engine to reach any breeze.

The hookah supplied air through a hose that I tested and found to be very difficult to kink, resisting kinking unless used two hands to twist it. This went to the weight belt where was an adaptor, thence by a short tube to the mouth piece. The mouthpieces were tested after the accident and found to work satisfactorily. The only abnormality found on taking the mouthpieces apart was a twisted coil spring at the valve; this was one used by 'B'. They were See-bee with tilt type up stream valves with a non-return valve. There was a small amount of verdigris in 'V's valve.

Both divers had their weights on the same belt as the hookah adaptor was on, and neither carried a snorkel. Though unwise, such factors did not appear to bear on the accident. 'B' had no difficulty with air supply at any time, though the same source supplied both divers.

Conditions on the day were a calm sea, light north-east wind, the boat was on the south-east side of a small island, and underwater visibility was good. The sea bottom could be seen from standing in the boat. Neither diver wore a depth gauge. Water depth will have been not more than 20 feet at the time of diving. The equipment was recovered the day following the incident and showed no damage marks.

The post mortem report was: brain swollen and the overlying cerebral vessels contain air. The lungs are distended and pale and there is underlying air in the pulmonary veins. The heart shows two areas of fresh haemorrhage from capillaries over the external surface and there is air in the coronary veins. Cause of death - Air Embolism.

Conclusion: It seems almost certain that 'V' ascended to the surface without exhaling. Why he did so cannot be known. There is no evidence of any natural illness, there is no evidence to suggest that his mouthpiece valve stuck, no sharks had been seen in the area and he would be too used to seeing sea snakes to become alarmed by their presence.

* * * * *

RISKY JOBS

The Metropolitan Life Insurance Co. recently completed a study of hazardous occupations and came up with some interesting statistics. They found that probably the most dangerous job possible is sponge diving, though only 25 persons make a living in this occupation in the USA because artificial sponges are taking over the market. Following sponge divers in the high risk list are aerialists, motor cyclists and auto racers, lumberjacks, bank guards and, interestingly enough, deep sea and Great Lakes fishermen.

Skindiver Magazine, November 1974