DEATH OF A DIVER

A case history

Douglas Walker

He was a trained, experienced and very safety conscious diver aged 20 and had been passed as "Medically Fit to Dive" nine months previously. His only known deviation from perfect health has been occasional chest, or epigastric pains over the past 18 months and these had usually responded to taking food. He was a highly respected and well-liked member of the diving club with which he was now visiting a famous sink-hole and had a Category 2 special diving qualification for such diving. The dive was carefully planned and was to show some friends the wonders of diving in such calm clear waters.

The dive profile, which was carefully followed, called for a maximum depth of 120 feet with ascent starting after 25 minutes. The dive was without incident and the ascent to the decompression stop occupied 3 minutes. Because the water was cold the stop was increased from 6 to 10 minutes at 10 feet. He mentioned after surfacing that he had suffered some mild soreness of his ears but this did not recur when, a short time later, he made a short (8 minutes), shallow dive (10 feet) in a small cave nearby.

This dive was followed by a club picnic lunch, though he personally took little or nothing to eat for himself and had apparently taken little food over the previous 24 hours. He did not seem to be unduly fatigued. There was to be another dive in the afternoon and he decided to take advantage of the fact that one of the morning party was not to dive again to borrow that diver's back-pack buoyancy vest in order to decide whether to change to such a type himself. While putting it on he mentioned that it felt tight across his chest and that he could not make himself completely comfortable in it. The dive was planned to be maximum depth of 140 feet with bottom time of 13 minutes which they considered to be a very safe dive (SI 5 hours 10 minutes, Residual Nitrogen 7 minutes). They descended to the planned depth and swam slowly to conserve their energy but the 15°^{ch}ill was still felt severely. The decompression stop at 10 feet was increased from the Table requirement of 6 minutes to an actual 13 minutes because of this cold factor. Although he was still apparently feeling some tightness in his chest, his buddy did not observe anything amiss with his behaviour during the dive.

While resting at the surface after the dive, discussing what they had seen, he coughed a little and said something like "That was blood", a circumstance which his buddies thought strange after an uneventful dive but assumed to be the result of a mild sinus barotrauma. After leaving the water, as he was taking off his wet suit, he complained of chest pains. These quickly became severe and his friends decided to rush to the nearest hospital, though they did not understand how he could have contracted decompression sickness from such carefully calculated and executed dives. During the car ride he could barely remain seated because of the agonising nature of the pain he was experiencing in the centre of his chest at the level of the xiphisternum. He was a bit breathless, found exhalation difficult, and found it difficult to sit and almost impossible to lie down. A nurse friend examined him prior to his being taken to the hospital and saw that there was no joint pains, no shoulder tip pains, no symptoms of cerebral or visual nature or apparent asymmetry of his chest or altered power or sensation in his limbs. The abdomen was normal. There was some cyanosis observed and the pulse was rapid, though regular.

It was while he was at the hospital that he reported the previous episodes of (lesser severity) similar pains, one episode having been particularly severe and incapacitating. The pains had not been associated with diving. He ascribed such episodes to indigestion and suggested, hopefully, that the present pain was due to a muscle strain, but nobody accepted this latter suggestion as likely to be true.

At the instigation of some medical friends in the diving party he was given some oxygen, but he soon discarded this as it gave no relief. He found it difficult to lie flat to allow the medical examination. No clinical findings were seemingly noted as being significant and he was given some pain tablets and advised to go home (to the camp site the club was using) to rest. As he left the hospital he experienced a severe spasm of pain so his friends returned him to the hospital and made plain their belief that admission was mandatory. He was kept for observation, and finally, was admitted, and had X-rays taken but no abnormality was noted. He was given more pain tablets and an injection and admitted for observation. At 2300 hours, 4 hours after his first attendance at the hospital, he began to complain of nausea and asked the nurse to bring a bowl. When she returned she found that he had suffered a cardiac arrest. This failed to respond to medical attention.

At the autopsy a dissecting aneurism of the aorta, with a left haemothorax was found. There was no history of previous trauma or any known family predisposition of such a condition to explain its occurrence in such a young, active and apparently fit person. In retrospect the episodes of the "indigestion" were almost certainly symptoms of the dissecting process.

This report is presented to draw attention to the fact that divers may suffer from any of the medical or surgical conditions to which any person is liable, even to extremely rare conditions. The dive history here was so well documented and vouched for by a number of reliable witnesses, and the story of pain so definite, that the existence of a non-diving emergency should have been considered. It is not known why it was not. Possibly there was a diagnostic programme fault in that the absence of a clear "diving-medicine" diagnosis in a diver (eg. pulmonary barotrauma or air embolism) led to the erroneous conclusion that there was therefore "Nil Disease". This pitfall is not usually given critical awareness. It is probable that even had the correct "spot diagnosis" been made the outcome would have been exactly the same.

Doctors should remember that a diver without a clear diving-related cause for his illness may have a non-diving problem requiring attention, and needs the appropriate therapy. This could save lives.