

The diving doctor's diary

Hooked on oxygen...hypochondriasis perhaps?

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Key words

Decompression illness, case reports, medical conditions and problems

Abstract

(Inglis S. Hooked on oxygen...hypochondriasis perhaps? *SPUMS J.* 2005; 35: 89-91.)

A young man presented to hospital on 15 occasions over eight months. Five of these were with presumed decompression illness (DCI) and for four he received recompression therapy. Each time, he presented with joint pains and non-specific symptoms, but never had objective neurological signs of DCI. His other presentations were for a wide range of complaints and multiple specialties were involved in his management. These presentations followed a characteristic pattern, always at night and mostly after midnight, and in most instances he was discharged without specific treatment, although he received normobaric or hyperbaric oxygen on almost every occasion. His diving-related presentations were initially plausible but on the last occasion he used an alias and, when challenged, discharged himself. What was driving this young man? The psychiatric differential diagnosis is wide, or was he just hooked on oxygen?

Introduction

Decompression illness (DCI) may present clinically in many forms, and previous case series and anecdotal reports have illustrated that some presenting divers do not have DCI.¹ This report presents the case of a young man with multiple presentations to hospital over a short period, some of which were for presumed DCI. The discussion will concentrate on the likely differential diagnosis.

Case report

A 19-year-old man presented to hospital on 15 occasions over eight months. Five of these were with presumed decompression illness (DCI) and on four he received recompression therapy. His other presentations were for a wide range of complaints including chest and abdominal pain, alleged trauma, collapse, nausea and even following a fictitious road traffic accident (Table 1). He underwent

multiple investigations, including blood and urine tests, chest X-rays and CT scans of the head and abdomen. Multiple specialties were involved in his management including Emergency and General Medicine, Hyperbaric Medicine, Psychiatry, Urology, Radiology, Neurology and even Neurosurgery. The presentations followed a characteristic pattern; always at night and mostly after midnight. At no stage did he have objective clinical or investigational findings. In most instances he was discharged without specific treatment, although he received normobaric or hyperbaric oxygen on almost every occasion.

DIVING-RELATED PRESENTATIONS

First presentation (second overall)

SS presented at 2022 hrs complaining of pain in his right knee and shoulder commencing about two hours following diving. He also felt dizzy, and had a headache and blurred vision. There was no chest pain, shortness of breath or skin itching. He was unemployed, but currently undertaking a Work and Income New Zealand-funded dive leader scuba course and this was his thirteenth dive. His only previous medical history was of bilateral inguinal hernia repair as a child. He was on no regular medications and had no allergies.

His first dive was reportedly to a maximum depth of 22.5 metres' sea water (msw) for 15 minutes. After a surface interval of 75 minutes, his second dive was to 20 msw for 15 minutes with an ascent over 2.5 minutes. He did not do a safety stop on either dive. These dives are within the no-stop times on the DCIEM decompression tables.

Table 1

Summary of 15 presentations, several related to scuba diving, by a 19-year-old male to the emergency department over an eight-month period

Attendance number	Presenting complaint	Diagnosis	Admissions to hospital
1, 6, 9, 11, 15	Alleged trauma	Uncertain	2
7, 8	Chest pain	Uncertain	2
12, 13	Abdominal pain	Uncertain	1
10	Nausea, shaking	Intoxicated	0
2, 3, 4, 5, 14	Joint pains, etc	?DCI	3

On examination he was alert and orientated, and had a strong body odour. Cardiovascular, respiratory, ENT and neurological examinations were all normal. Right shoulder and knee examination was also normal with no exacerbation of pain or limitation of range with movement. There was a patchy, erythematous rash on his chest.

A presumptive diagnosis of mild, stable musculoskeletal and neurological DCI was made. Initial investigations included a full blood count and biochemistry and a chest X-ray, all of which were normal.

Hyperbaric oxygen therapy (HBOT) comprised a Royal Navy treatment table 62 (RN 62), which produced moderate relief of his joint pains. The following day he received a further short HBOT (18.60.30 treatment table) and was discharged with minimal residual pain. That evening he represented to the emergency department with worsening shoulder pain, and received further HBOT the following day, with no further relief of his shoulder pain. He failed to present for review on the following day.

Second presentation (third overall)

Six weeks later he presented again, following what he said were his first dives since the previous admission, complaining of pain and paraesthesiae in his left shoulder, a headache and nausea. He had no chest pain, shortness of breath or itching. He reported that his symptoms had commenced after a hot shower, five hours after his last dive.

His first dive was a multi-level dive with a maximum depth of 33 msw for a total dive time of 45 minutes, including a safety stop of 10 minutes at 5 msw. Following a surface interval of 2.5 hours, his second dive was to 26 msw for a total dive time of 30 minutes, including a safety stop of 10 minutes at 5 msw. Three hours later he did a third dive to 18 msw for 25 minutes, including a safety stop of 10 minutes at 5 msw. His buddy apparently became caught in a net and SS claimed he had to cut him free. He had been somewhat anxious about this but insisted that he had still done his safety stop. His dive buddy did not accompany him to hospital and he did not know how to contact him.

He was alert and orientated, and clinical examination was normal, except that he reported subjective decreased sensation in his left hand. Chest X-ray was normal. The diagnosis was again presumed to be mild, stable musculoskeletal and neurological DCI following, this time, a provocative (alleged) dive profile.

He underwent an RN 62 and then an 18.60.30 HBOT on the following day. He admitted to some improvement following these but had ongoing paraesthesiae in his left hand. He was discharged from care but was readmitted to hospital the same evening complaining of sharp chest pain. A chest X-ray, electrocardiogram and blood tests were all normal. A further HBOT was given the following day, but he again failed to present for review subsequently.

Third presentation (fourteenth overall)

His third dive-related presentation was ten weeks later, when he complained of a throbbing headache, nausea, generalised muscle aches and pruritus. He had no chest pain or shortness of breath. He said he was 'unwell' following three scuba dives a day over a three-day period, but was extremely vague about his dive profiles and said that he had left his dive computer at home. His dive computer was not presented for analysis at any of his presentations, despite requests for him to do so.

On examination he was alert and orientated, and the rest of his examination was normal. At this point, although he had presented under an alias, he was recognised by another member of the emergency department staff as SS. The hyperbaric medicine doctor commented that he was "smelly and dirty, so highly unlikely to have been in the water yesterday". It transpired that SS had a Court appearance that day. No investigations were done, and he was referred urgently for psychiatric assessment but failed to present until eventually seen by the Drug and Alcohol Clinic a year later.

Discussion

The differential diagnosis in this young man is broad and remains elusive. It includes DCI, hypochondriasis, Munchausen's syndrome and factitious disorder. Other specific diagnoses include psychiatric disorders such as depression, anxiety disorder and malingering. Also, he may have had renal colic, been assaulted and even been involved in a road traffic accident, but there was never any substantiating evidence to confirm these. He had episodes of 'atypical' chest pain and may have been abusing drugs, especially alcohol.

It is still conceivable that the patient had DCI. It was confirmed that he was indeed doing a diving course at the time of his first dive-related presentation and he was precise about his diving profiles on this and the subsequent dive-related presentation. He only ever presented with symptoms, his clinical examination on each occasion being unremarkable. He appeared to only partially respond to HBOT, which was not consistent with his mild symptoms and early presentation. Following both these presentations he failed to present for review. His final dive-related presentation was a farce with him presenting under an alias with similar symptoms to before. It was never substantiated that he had actually been diving on any of these occasions. This is difficult to do, of course, without breaching patient confidentiality.

Hypochondriasis is defined as "*a preoccupation with bodily functions and fears of acquiring or having a serious disease based on misinterpretation of physical symptoms.*"²² Hypochondriacs have no real illness, but are overly obsessed with normal bodily functions and become preoccupied with ideas or fears of having a serious illness. Appropriate medical

investigation and reassurance do not relieve these ideas. These ideas are not delusional and are not restricted to concern about appearance. Patients often seem highly invested in their own suffering. The person with hypochondriasis feels real distress, so the symptoms should not be denied or challenged by others. They cause distress that is clinically important or impairs work, social or personal functioning. Symptoms generally last six months or longer and this is a chronic illness that usually develops in middle age or later. Sufferers cannot shake the idea that something is seriously wrong with them and seek many tests and much reassurance from their doctor. Although some of these features describe SS, he did not appear overly obsessed about normal bodily functions and appeared reassured after his investigations or treatment.

Munchausen's syndrome is defined as "repeated fabrication of physical illness – usually acute, dramatic, and convincing – by a person who wanders from hospital to hospital for treatment."³ Patients with Munchausen's may simulate many physical disorders and may have prominent histrionic personality features but are usually intelligent and resourceful. They are sophisticated regarding medical practices and often have an early history of emotional and physical abuse. They have problems with their identity, intense feelings, inadequate impulse control, a deficient sense of reality, brief psychotic episodes, and unstable interpersonal relationships. 'Munchausen's by proxy' is seen in parents or care givers who present with a fabricated illness in their child. SS appeared neither intelligent nor sophisticated.

Patients with factitious disorder may consciously produce the manifestations of a disease and present themselves for medical care, but they sabotage therapy with self-induced or self-perpetuated disease. They tend to simulate only one disease and only during major psychosocial stress. They do not tend to wander from one hospital or physician to another and they can usually be treated successfully.³ SS simulated many diseases, did not appear to sabotage therapy and was not treated successfully.

Conclusions

SS had 15 presentations over eight months, was referred to no fewer than seven different specialties, some multiple times, and was admitted to the emergency observation ward five times and to a general medical ward twice. His triage code was invariably 'four' (to be seen within one hour) but

on two occasions it was 'two' (to be seen within 10 minutes).⁴ Presentations were predominantly after midnight (nine out of fifteen). He had extensive investigations, including CT scanning, which were all essentially normal, and apart from the first two diving-related presentations received no definitive treatments.

No diagnosis clearly fits with this young man's pattern of behaviour. It would seem that most of his symptoms were fabricated. He was a student on a diving course and certainly his diving symptomatology could have been learnt on that course. What was driving him will probably remain a mystery. What was definite was that he kept a lot of medical people busy and much time, effort and money was spent investigating and treating him. Finally, was he just hooked on oxygen?

References

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- 3 *The Merck Manual of Diagnosis and Therapy.* Section 15. Psychiatric Disorders. Chapter 185.
- 4 *Psychiatry in Medicine.* (last accessed 18 May 2005): <http://www.merck.com/mrkshared/mmanual/section15/chapter185/185d.jsp>
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This case report was presented by Dr Inglis at the SPUMS ASM 2004 in Noumea.

East Somerset Research Consortium

Dr Peter Glanvill (Glanvill P, St Leger Dowse M, Bryson P. A longitudinal cohort study of UK divers with asthma: diving habits and asthma health issues. *SPUMS J.* 2005; 35: 18-22.) advises that he has joined a small general practice consortium in order to pursue further diving

medicine research in the primary health setting. The group meets regularly for brainstorming on a variety of topics.

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