NEUROLOGICAL SYMPTOM

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Dissociation: what is it and why is it important?

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Dissociation is a mysterious and "woolly" area for many neurologists. In this article I will try to persuade you that it describes a common and interesting group of symptoms that many of our patients have—both with and without disease. I will suggest that it should be in the differential diagnosis for anyone presenting with dizziness or blank spells. Dissociative symptoms also occur in common neurological problems such as migraine, epilepsy, and syncope as well as in people with symptoms such as functional weakness, non-epileptic attacks, and depression. They may also occur in isolation but be mistaken for disease. Being able to recognise them, explain them, and perhaps even do something about them should lead to a happier patient and a happier neurologist. Let's look at some cases from neurology outpatients:

CASE 1

A 34 year old woman was walking along with some friends when over a period of a minute or two she developed an intense and frightening feeling of "dizziness". She felt hot and nauseous, had tingling on the left side of her face, and had to sit down on the path. It all resolved within 10 minutes but she was left feeling shaken by the experience. Later that week the feeling of dizziness recurred on two further occasions, just as unexpectedly, but less intensely. She found it hard to describe the dizziness but eventually said it was like "floating off or being not connected with the world somehow". The same thing happened during a normal EEG recording. Although the family doctor had been concerned about epilepsy or a transient ischaemic attack, the diagnosis was dissociation, perhaps due to a panic attack.

CASE 2

A 26 year old student was referred to the clinic because of "blank spells" with a query about epilepsy. They came on gradually and faded away slowly, lasting about 30 minutes each. They tended to happen when he was concentrating on his work. They were not accompanied by a sense of fear or any autonomic symptoms. He was fully aware during them and his girlfriend said that he looked normal and was fully responsive. He described feeling "strange" and "spaced out". The diagnosis was not epilepsy but episodic dissociation made on the basis of the symptomatology and prolonged duration of the episodes with their long onset and offset.

In these two examples patients were referred to neurology with "dizziness" and blank spells, but the final diagnosis was of a transient dissociative state. In the first, it was combined with some symptoms of panic, in the second, it just occurred on its own.

WHAT ARE DISSOCIATION, DEPERSONALISATION, AND DEREALISATION?

In simple terms, depersonalisation refers to feelings of *disconnection from your body or thoughts* and derealisation to feelings of *disconnection from your surroundings*. Dissociation is an umbrella word for both these terms and a wide range of other symptoms and disorders to do with disconnection of bodily perception, thoughts, emotions, memories, and identity. Problems as disparate as psychogenic amnesia, fugue states, multiple personality disorder, functional weakness, and non-epileptic attacks are all variably classified as dissociative by psychiatric classifications. In fact the sheer broadness of the meaning of dissociation is one reason why it is better, if possible, to refer to depersonalisation or derealisation if that is what you mean. There is also a "depersonalisation disorder" in which the patient experiences continual depersonalisation symptoms in isolation. In this article I am going to largely ignore these "disorders" and concentrate on the symptoms of depersonalisation and derealisation

Some examples of the words and phrases that patients use to describe depersonalisation, derealisation, and other dissociative symptoms are shown in the box on the next page. Like many subjects in psychiatry, the lines around the edges of a concept like dissociation are blurred. For example, when someone cannot remember driving home is that dissociative amnesia or a defect in attention?

DISSOCIATION IN NEUROLOGICAL DISEASE

Looking at the symptoms in the box it is obvious that many are experienced in neurological disorders, especially epilepsy (for example, temporal lobe seizures),[1] migraine (see fig 1) and in vestibular disorders.[2 3] Dissociative symptoms are also reported during the relative hypoxia of presyncope.[4] There is ongoing debate about whether the symptoms reported in true near death experiences are dissociative, although

they certainly share similar characteristics.

DISSOCIATION IN PSYCHIATRIC AND FUNCTIONAL DISORDERS

Dissociation is a common symptom in psychiatric disorders. If you ask patients with depression, anxiety, schizophrenia, and personality disorders about dissociative symptoms you'll find them reasonably frequently.[5] Depersonalisation and derealisation are especially common during panic attacks, during hyperventilation, and in people with post-traumatic stress symptoms.[5] In this context, it is important to remember that panic attacks (and thus dissociative symptoms) may be situational (supermarkets, crowded places, cars) or more commonly entirely random and "out of the blue".

In the International Classification of Diseases (ICD-10), all "functional" or "non-organic" neurological symptoms such as pseudoseizures are classified as dissociative. Although dissociative symptoms can certainly be found in many of these patients with careful enquiry, especially before pseudoseizures and before acute functional weakness, it is by no means established that *all* of these patients develop symptoms via some kind of dissociative mechanism or even have dissociative symptoms. The American psychiatric classification system classifies them as "conversion symptoms" with no mention of dissociation. Furthermore, dissociative symptoms may be common in other functional somatic syndromes such as chronic fatigue. So while it can be helpful to see some patients' "non-organic" motor symptoms as "dissociative", it's probably best not to pay much attention to the psychiatric classifications used in this area.

BOX Words and phrases people use to describe depersonalisation and derealisation

Depersonalisation

Common: "I felt strange/weird", "I felt as if I was floating away", "I felt disembodied/disconnected/detached/far away from myself", "apart from everything", "in a place of my own/alone", "like I was there but not there", "I could see and hear everything but couldn't respond".

Less common: "puppet-like", "robot-like", "acting a part", "I couldn't feel any pain", "like I was made of cardboard", "I felt like I was just a head stuck on a body", "like a spectator looking at myself on TV", "an out-of-body experience", "my hands or feet felt smaller/bigger", "when I touched things it didn't feel like me touching them".

Derealisation

"My surroundings seemed unreal/far away", "I felt spaced out", "it was like looking at the the world through a veil or glass", "I felt cut off or distant from the immediate surroundings", "objects appeared diminished in size/flat/dream-like/cartoon-like/artificial/unsolid".

Other dissociative symptoms

Memory: "I drove the car home/got dressed/had dinner but can't remember anything about it", "I don't know who I am or how I got here" (fugue state), "I remember things but it doesn't feel like it was me that was there".

Identity: "I feel like I'm two separate people/someone else".

Other: "I felt like time was passing incredibly slowly/quickly", "I get so absorbed in fantasy/a TV programme that it seems real", "I felt an emptiness in my head as if I was not having any thoughts at all".

DISSOCIATION IN HEALTHY NORMAL PEOPLE AND AS AN ISOLATED PHENOMENON

Measuring dissociative symptoms is difficult and the scales available vary considerably in the types of question they ask. However, studies have shown that dissociative symptoms are common in the general population. The lifetime prevalence of depersonalisation/derealisation has been estimated at anywhere between 26–74%. Dissociative symptoms can be found acutely in 31–66% of people during a traumatic or life threatening event.[5] Many reading this article will probably have experienced some of the symptoms in the box, albeit probably transiently when tired, under pressure, or under the influence of some external agent.

Dissociative symptoms are part of being human. For example, transient dissociative symptoms may be a desirable outcome of many emotional, religious, musical, or sexual experiences. Drug taking, meditation, and repetitive dancing are further examples of people's desire to induce dissociative states. Various websites cater for people who gain meaning or pleasure from their "spontaneous out of body experiences" (for example, http://www.oberf.org).

Dissociation can therefore be a good thing as well as a bad thing. Indeed some view it as an adaptive mechanism evolved to allow human beings to escape from the burden of their full sensorium when under stressful situations. For example, if a woolly mammoth is charging towards you, it is quite helpful to be able to disconnect your consciousness from the pain

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of your body or non-contributory stimuli in the environment as you concentrate on saving your life.

The downside of the relation between stress and dissociation is that repeated stressful experiences in early life such as childhood abuse may lead to an increased propensity to experience unhealthy dissociative symptoms later in life.[6] The directions of causality here are complex but the idea that early traumatic experiences may distort or amplify a normal dissociative response to subsequent trauma is appealing.

WHY DON'T MY NEUROLOGY PATIENTS TELL ME ABOUT IT MORE OFTEN?

In neurological practice, patients often struggle to articulate dissociative experiences as they do any dizzy or giddy feelings. As Bryan Matthews pointed out in his book *Practical Neurology*, "The question: '*What do you mean by giddiness?*' will receive and deserve the answer: '*Well, you know, like what you feel when you feel giddy*'". When the problem is depersonalisation, not only may patients not know how to put the experience in to words, but they may be frightened or reluctant to do so. Many of them, and particularly patients with functional symptoms or those that experience them during a panic attack, think that dissociative symptoms may be an indication that they are "losing their mind". For this reason, it may be the last thing they want to discuss with a fierce looking neurologist whom they want to be taken seriously by. It can be difficult, therefore to find dissociative symptoms without asking some quite specific questions. Great care however has to be taken to ensure that you do not put words in to the patient's mouth. Give the patient a choice of answers rather than a yes/no question to reduce this possibility.

IS THERE A BIOLOGY OF DISSOCIATION?

In the era of functional imaging, the answer is inevitably "yes". One study found five patients with neurological disease and out-of-body experiences whose structural pathology or seizure focus was in the left or right temporo-parietal junction. In one patient, direct stimulation of this area (angular gyrus) led to replicable out-of-body experiences.[1] Preliminary studies of patients with chronic depersonalisation are beginning to unpick the neural correlates of these symptoms, such as a relative lack of activity in the insula in response to emotional stimuli.[7] Difficulties of defining the problem, heterogeneity of symptoms, and debate about whether depersonalisation and derealisation are separate entities all contribute to make this a difficult area to study.

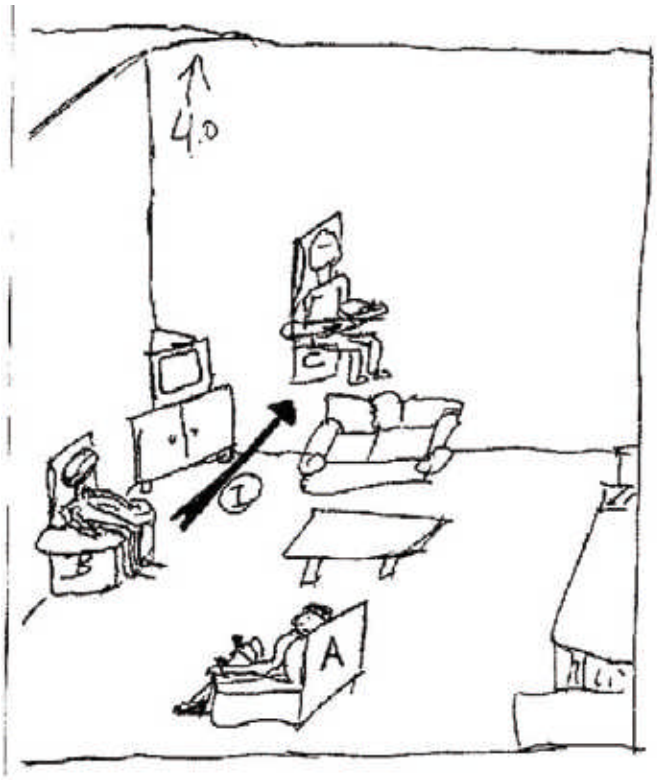

Figure 1
A patient's sketch of their own out of body experience during an episode that may have been a migraine. (Reproduced with permission from Oxford University Press.[1])

WHY SHOULD A NEUROLOGIST KNOW ABOUT DEPERSONALISATION/ DEREALISATION?

You may be wondering while you read this whether there is any point knowing about a phenomenon that occurs in such a wide range of situations and is so diagnostically non-specific. I cannot back the following up with evidence but I find that knowledge of dissociative symptoms helps in the following situations:

- *Assessment of dizziness.* We frequently see patients like case 1 who are referred with "dizziness", often in the context of anxiety or panic. The referral usually frames the problem in a very neurological way and the patients are generally reluctant to tell you about their panic or describe the

depersonalisation RESEARCH UNIT

Figure 2
The Depersonalisation Research Unit, based at the Institute of Psychiatry, is a good starting place for further information.

dissociative nature of their dizziness. Case 1 could be told that they had had a panic attack but it would probably be more helpful to explain how depersonalisation and panic often go together.

- *Assessment of blank spells.* Patients experiencing puzzling intermittent dissociative symptoms can, as in case 2, just describe "blank spells". Onlookers may not see anything unusual, but the person's behaviour may be altered slightly and this can raise the question of epilepsy. In case 2, the long duration of the episodes, as well as the slow onset and offset, were some of the features against the diagnosis of epilepsy.
- *Management of non-epileptic attacks and functional weakness.* Some patients with non-epileptic attacks and acute functional weakness will describe dissociative symptoms, if asked, just before the onset of their neurological symptoms.[8] Uncovering such a history allows you to explain a potential *mechanism* to the patient. Let us say you find evidence of depersonalisation and panic just before the onset of functional weakness. You can explain to the patients that they were experiencing a fairly normal dissociative symptom but that because it made them worried about a stroke, multiple sclerosis, etc, it was frightening—not surprisingly. The mechanism of the weakness could be seen as residual hemi-depersonalisation, or a disconnection between the brain/mind and one half of the body.

PRACTICE POINTS

- Dissociation refers to a range of symptoms of "disconnection" including depersonalisation (a feeling of disconnection from your body) and derealisation (a feeling of disconnection from your environment).
- Depersonalisation and derealisation are common and occur in healthy individuals as well as in neurological and psychiatric disorders.
- In the absence of a neurological cause such as epilepsy or migraine, dissociative symptoms, sometimes occurring in isolation but usually with panic, may be the explanation for blank spells and episodic dizziness.
- Dissociative symptoms may also be described before some non-epileptic attacks and before acute functional weakness. This may be helpful in explaining the diagnosis to the patient.
- Patients in neurology clinics may be reluctant or unable to describe these symptoms, partly because they are frightened that the symptoms might indicate madness or that they are "losing their mind".

EXPLAINING AND TREATING DISSOCIATION

Most people understand what is meant by a trance-like state, or a state of hypnosis. It may also help some patients to know that sensible research on depersonalisation is being carried out. The Depersonalisation Research Unit at the Institute of Psychiatry in London (see fig 2) focuses on people with chronic and persistent depersonalisation and has a good set of pages about the symptom (http://www.iop.kcl.ac.uk/iopweb/departments/home/?locator=911&context=main); otherwise, you may even want to give your patient a copy of this article!

Understanding what dissociative symptoms are—that they can come out of the blue for no good reason, and that they do not indicate madness or impending disease, can go a long way to helping solve the patient's concern about the symptom. Treating anxiety, panic, or depression (if present) may also help.

It would certainly be reasonable to refer patients with persistent depersonalisation/derealisation to a liaison psychiatrist (if you have one). Dissociative symptoms seem to be resistant to drug treatment, especially in people with chronic depersonalisation. Neither antidepressants such as fluoxetine or lamotrigine (which showed some early promise) have proven efficacy in this situation.

Some authors have proposed that persistent depersonalisation symptoms are a result of a catastrophic misinterpretation of common but normally transient dissociative symptoms. These misinterpretations may revolve around concern about serious mental illness or—in patients attending a neurological clinic—concern about brain disease. The more the patients are concerned the more likely they are to pay attention to and experience the symptom. A cognitive behavioural approach (in essence an elaborate way of persuading someone to think about and react to the symptom in a different way) may, even in the absence of evidence, be worth trying.[9]

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