



special articles

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'Brain shivers': from chat room to clinic

The internet is rapidly becoming a first-line source for clinicians and patients alike, and it is increasingly necessary that clinicians maintain an open dialogue with their patients about their information sources. In this paper, I look at the emergence of 'brain shivers' as a side-effect that appears to have emerged online, in the context of antidepressant side-effects and withdrawal. I discuss possible biological explanations for this strange, possibly new, complaint, as well as the emergence of particular symptoms as a sociological phenomenon aided by new technology.

Psychiatrists frequently ask their patients about the presence of adverse effects caused by antidepressants. We often ask about dizziness and postural hypotension, for example, but may not enquire about variations upon common adverse effects, and unless our patients volunteer a specific side-effect, we run the risk of being unaware of it.

We need to be aware of our patients' use of the internet, since those who are computer literate may be beginning to shift their first port of call on health matters away from their general practitioner or specialist to the World Wide Web. Half of all households in the UK in 2003 had internet access (Office of Telecommunications, 2003). The easy accessibility, 'always on' nature and rapid response of this 'fountain' of information serve to remind us of what many of our patients actually want from health information services.

In this paper I should like to suggest that an example of the emergence of 'new' drug effects may be 'brain shivers'. It is difficult to establish when the term first came into existence, but web pages from 1999 refer to 'brain shivers' in relation to antidepressants (Tamburini, 1999). Online, the term seems to occur most commonly in the context of both use and discontinuation of venlafaxine, although it has also been associated with most selective serotonin reuptake inhibitors (SSRIs).

Medline returns no reference to 'brain shivers' relating to antidepressant use. In contrast, the search engine Google returned 3100 'hits' for the term 'brain shivers' on 1 November 2004 (<http://www.google.com>). There is even a weblog ('blog') devoted to discussion of venlafaxine (Brainzaps, 2004). While the medical literature is silent, online there is active discussion about 'brain shivers'. In contrast to this online community of people

discussing a particular side-effect, psychiatrists appear to be unfamiliar with these patient-led terms. Of a small sample of psychiatrists sampled by the author, none had come across the term 'brain shivers' before.

Descriptions of the same phenomenon

A number of different descriptions are in use for what appears to be a similar phenomenon. Other terms include: 'watermelon head' and 'electric brain thingies' (Anonymous, 2004), 'brain zaps' (dde, 2003) and 'brain flips' (Mangan, 2000). There are cross-cultural variants such as 'svimmelhed', from Denmark, which means 'dizzy' in English.

Brain shivers

Descriptions

It is difficult to draw clear conclusions about the sensations described by the terms in question. Different people tend to describe different sensations, but there are core features in common, primarily a combination of dizziness and electrical sensations. A selection is given below:

'... dizziness, my skin feels as though it is crawling ...'
(Amanda, 2004).

'Brain shivers can run your whole body right out to the tips of your fingers and toes. And back again' (Anonymous, 2004).

'I feel like my head has a constant electric "whirr" inside of it that won't stop ...' (Johnson, 2004).

'... my head was doing this weird, pulsing, samba-like thing that some [venlafaxine] users describe as "brain shivers", but that I find similar to how one feels under a strobe light'
(Pearson, 2002).

'[Brain shivers] which are similar to electric shocks pulsing rapidly through your brain every 2–5 seconds' (Claire, 2004).

What are brain shivers?

From some of the above extracts, this term could be describing a multiplicity of phenomena, from tinnitus to migraine. An awareness of it being experienced as 'electrical' seems relevant, and it is undoubtedly similar



to dizziness since this is one of the most common synonyms.

Although the symptom may be simple dizziness, it is one that has been elaborated upon by fervent online discussion. The web offers ample opportunity for creative interpretations, which take on a life of their own. Membership of a group, even one only united by side-effects, is often important to many people who frequent online message boards. Some people might be more willing to admit to sharing a symptom or side-effect if it conferred membership of a particular group.

The most constructive way of viewing the phenomenon of 'brain shivers' is probably to see it as a 21st-century creation. Antidepressant discontinuation is an important and highly relevant condition that results in a number of unpleasant experiences for those concerned. Some of these experiences may be novel for the individual, and may be difficult to describe. As people's use of the web increases, they go online to find information, and come across others' descriptions of similar experiences which have been labelled 'brain shivers'. Their identification of similar symptoms results in their own adoption of the label, and so it is perpetuated. The availability of almost instantaneous communication means that such concepts can be widely disseminated very quickly.

Could brain shivers have a biological basis?

There may be more biological explanations of 'brain shivers'. Venlafaxine is a drug that acts on both serotonin and noradrenaline pathways. It can also reduce the release of noradrenaline in response to benzodiazepine receptor inverse agonists, which are anxiogenic in nature (Dazzi *et al.*, 2002). This suggests a link with γ -aminobutyric acid (GABA) neuromodulation.

Benzodiazepines are effective treatments for vertigo and associated disorders such as Ménière's disease (Hain & Uddin, 2003). They act centrally by suppressing vestibular output. Therefore, it is possible that venlafaxine might have effects on GABA neurotransmission. Acute discontinuation of venlafaxine might have the unwanted effect of upregulation of receptors in these pathways, in a similar mechanism to acute alcohol withdrawal.

Adverse effects of venlafaxine

A number of adverse effects were reported during the premarketing evaluation of venlafaxine by Wyeth in the USA. These include 'feeling drunk', vertigo and nystagmus (Wyeth, 2003). Wyeth also report a number of similar adverse effects during venlafaxine discontinuation, including dizziness, sensory disturbances (including shock-like electrical sensations) and vertigo (Wyeth, 2003). Again, these phenomena (singly or in combination) could all account for the user's experience of 'brain shivers'.

Is there a treatment?

Given that the aetiology of the experience is uncertain (it may represent a hypotensive phenomenon or simple

dizziness), it is difficult to postulate an effective treatment. There are a number of personal accounts of people using alprazolam, a short-acting benzodiazepine, to treat the withdrawal symptoms of venlafaxine and SSRIs ('Kerry', 1999). It is possible, however, that discontinuation symptoms were remitting at the time that other drugs were started. There are also reports of venlafaxine withdrawal being treated with fluoxetine (Giakas & Davis, 1997).

Assuming that abrupt discontinuation of some SSRIs and venlafaxine is responsible, gradual reduction of dosage is undoubtedly the preferred option. The manufacturers of venlafaxine recommend dose tapering over at least a 2-week period, but also state that 'individualization of tapering may be necessary' (Wyeth, 2003). Regular monitoring of our patients and open discussion of adverse effects is needed.

Conclusions

Although the aetiology of 'brain shivers' and other associated descriptions remains uncertain, it serves as an introduction to the web as being an indicator of many patients' experiences of the drugs that we prescribe. We will undoubtedly see an increase in the amount of information being provided to our patients in this way without our control. We have to understand the implications of this, especially in relation to a group of people who, frequently feeling disempowered by 'the system' and by their illnesses, find solidarity online.

Declaration of interest

None.

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