

DRUG POINTS

Gabapentin may cause reversible visual field constriction

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A 52 year old woman presented with neuropathic pain in both legs. Clinical neurological and neurophysiological examinations showed polyneuropathy, and a diagnostic work-up found no evidence of concomitant disorders or current drug use. She was treated with carbamazepin, but we stopped the drug because she had persistent dizziness. We started her on 400 mg gabapentin twice a day, increasing to 800 mg three times a day, which almost eliminated the pain. Nine months later she complained of episodes of disturbed vision lasting 5-10 minutes and dizziness. Ophthalmological examination found concentric visual field constriction (see figure on bmj.com). Despite reducing gabapentin to 400 mg three times a day, four months later the visual defect had worsened (see figure on bmj.com). We therefore stopped gabapentin.

Electroretinography, visual evoked responses, and magnetic resonance imaging of the brain were all normal, excluding conditions such as lesions in the retina or tumours located in the hypophyseal area. Visual field examinations repeated five times in the next nine months confirmed improvement, and examination two years after the symptoms started showed marked improvement. At the five year follow-up examination, the visual field defects had completely gone (see figure on bmj.com).

Drugs that increase the activity of γ -aminobutyric acid (GABA) may lead to toxic reactions in the retina.¹ As

many as 40% of patients treated with vigabatrin (Sabril; Aventis Pharma, Guildford) develop visual field constriction.² Vigabatrin but not tiagabin (Gabitril; Cephalon, Guildford) accumulated with a higher concentration in the retina than in the brain.^{3,4} To our knowledge, visual field impairment in patients taking gabapentin has not previously been reported. Gabapentin is used by millions of patients in clinical practice. So far, no causal relationship between use of the drug and serious toxicity to organs has been established. This case does not change this assumption, but gabapentin may produce visual field constriction.

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Perimetry of the left and right eye after treatment with gabapentin and after it was stopped is on bmj.com



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Reusable learning objects

Does your institution or medical school have online learning resources? If you are lucky then you may have access to a wealth of online learning modules or objects, but if you're in a poor institution then you probably won't. But no matter how big your institution, it's a fair guess that its online learning resources will have at least some gaps. How should you fill them?

One possibility would be for all medical schools everywhere to share their online learning resources. This is the idea of Ron Harden, and he and his team in Dundee are building an "International Virtual Medical School" (IVIMEDS).¹ They say that learning content can be split into objects and then tagged and recombined to form teaching and learning experiences. For example, if you are giving a lecture on pneumonia in London then you can download a chest x ray from New York to put in your presentation. So the idea is taking things apart, tagging them, and then putting them back together again.

This seems to make sense, but there are caveats. Donald Clark of the e-learning company Epic is sceptical and wonders why no other medium has adopted the idea of "learning objects": the film industry doesn't divide films into individual scenes and then allow viewers to put them back together again.² Certainly, context is everything when writing learning modules: the job of the writer is to make meaningful narratives from which people can learn. If you take away the narrative then you may lose everything. And will the learning objects that you download "fit" with the rest of your presentation? Proponents of reusable learning objects often compare them to Lego bricks—you can reuse the bricks to make

whatever you want. But Lego is produced by only one company and can't be combined with anyone else's bricks. Sceptics say that you may be left with a bunch of learning objects that don't fit well together.

The truth is that the jury is still out on learning objects and their reusability. But there is no doubt that in the medical world IVIMEDS has taken the concept further than anyone else. If you are interested you can see some of their work at www.ivimeds.org/home.html.

Meanwhile, at BMJ Learning one of our most recent modules is on the red eye. It is packed to the brim with learning objects—mainly pictures of patients with acute glaucoma and bacterial and viral conjunctivitis. The authors have kindly told us that we can reuse them occasionally in other learning resources, but how well they fit together we shall have to wait and see.

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Competing interests: KW works for BMJ Publishing Group and, when BMJ Publishing Group was in partnership with IVIMEDS, he used to represent the group at IVIMEDS meetings.

- 1 IVIMEDS International Virtual Medical School. www.ivimeds.org/home.html (accessed 24 Apr 2006).
- 2 EPIC Group. White paper: Re-usable learning objects. www.epic.co.uk/content/resources/white_papers/reusable.htm (accessed 24 Apr 2006).