

VOMIT (victims of modern imaging technology)—an acronym for our times

Case 1—A request arrives for an urgent neurosurgical consultation. The urgency is reinforced by several telephone calls. A 12 year old boy with headaches has had a head scan—nowadays more likely magnetic resonance imaging (MRI) than computed tomography—that shows an arachnoid cyst. The parents have been told that the clinical diagnosis of migraine (the scan was performed "just to be on the safe side") has been changed to something more sinister. The parents are terrified, their fears not at all eased by being referred to a brain surgeon. After all, everyone knows that when doctors talk about a "cyst" they really mean cancer.

The internet is the most potent anxiety provoking system ever devised

Case 2—A 15 year old girl complains of back pain. A neurological examination and various blood and radiological examinations are negative—except for the MRI scan ("I'm sure there'll be nothing, but let's be certain"). The scan shows a mild focal dilatation of the central canal of the spinal cord over two vertebral levels in the mid-dorsal region. She is referred for a neurosurgical opinion with a presumed diagnosis of syringomyelia. Her parents surf the net. Now they know all about small muscle wasting, intractable pains, dissociated sensory loss, and the strong likelihood of progressive neurological deterioration. They also learn that a major spinal (or, worse still, craniospinal) operation is the only way to alter this gloomy prognosis. They arrive for the consultation shattered but resigned.

These hypothetical examples of "innocent pathology" are based on examples from my own specialty, paediatric neurosurgery, but I am sure that readers will have similar examples from their own disciplines. And I'm equally sure that, like me, you spend much of your time reassuring anxious patients and relatives that what some state of the art, gleamingly expensive piece of equipment has shown is no more than a red herring. And their relief that surgery is not needed may give way to resentment at how they have been "put through it" and disappointment that they may be no nearer a solution to their problem.

The history of imaging since the discovery of x rays has been one of an exponential rise in the volume and accuracy of information, acquired against a background of firstly increasing and then reducing invasiveness—and rising costs. This has allowed such

investigations to move tentatively from being purely symptom driven to being non-symptom driven. It is small wonder that the flood of information from these investigations and our knowledge of how to deal with it may be several years out of step.

But there is a more sinister danger. Because a medical setting and on-site medical expertise are not necessary for our new imaging techniques, the ties between the medical indications for a particular test and the motives for carrying it out are inevitably loosened. And thus the opportunity for financial gain moves into conflict with clinical need. There is no reason why imaging equipment should not be run on a commercial basis. It is perfectly natural for a commercial company, a healthcare organisation, or even a group of doctors to want their expensive equipment to pay its way and, hopefully, turn in a profit—but it's at this point that the restrictions associated with medically selected referrals can become something of an impediment. It's more cost efficient to do scans on everyone who wants one—effectively self referral whether a doctor signs the form or not—and cut out the intermediary. Throughput and commercial survival become inextricably linked. Pack in the punters—and if any health benefits result, well, that's an agreeable spin off.

Such a policy will inevitably produce a bumper harvest of both "normal" and unanticipated "abnormal" results. But it is people with normal results, especially the anxious and credulous, who will provide rich pickings for the unscrupulous. Anxiety is the catalyst for this process, of course, particularly among people who are wealthy and gullible enough to swallow the line that the more sophisticated the investigation, the healthier they must be if their results keep coming back "normal." The internet, with its emphasis on the generality of perceived ill health over the particular needs of the individual, is of course the most potent anxiety provoking system ever devised, its influence enhanced by the democratic availability of input from both the well meaning supplier of information and the charlatan.

So where does this leave us doctors? We adapt to a world in which we must accept VOMIT as a reasonable price for our technological advances. But it's also a world in which that well tried and tested concept, the doctor-patient relationship, exists to help us translate the anxiety-provoking generality into, we hope, the reassuringly individual. But wasn't that always our job?

Richard Hayward, *consultant neurosurgeon*
Great Ormond Street Hospital for Children, London Haywar@gosh.nhs.uk