

# CONTEMPORARY NEUROLOGICAL DILEMMAS



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## INTRODUCTION

Many patients present to neurology outpatient clinics without serious pathology – the classic example is the patient with chronic headache who believes he has a brain tumour. After a history and examination the neurologist is confident of the diagnosis of chronic tension-type headache, but is left not knowing whether to send the patient for a brain scan ‘for reassurance’. Do investigations reassure patients, or do they make them suspect that the doctor is uncertain of the diagnosis, so leading to increased anxiety about an underlying disease?

## THE EVIDENCE BASE

The literature is conflicting (Howard & Wessely 1996). It is difficult to measure reassurance (there are no specific tests for it!). Asking the patient whether he or she feels reassured is problematic because most patients want to please their doc-

tors. In addition to asking specific questions about the patient’s feelings of reassurance, researchers have therefore resorted to measuring reassurance by using surrogates such as subsequent consultation rates, disability, and symptoms. After all, health anxiety is likely to increase levels of disability and severity of symptoms – whatever the diagnosis – and it is therefore reasonable to assume that these surrogates would improve if the patient really had been reassured.

Using these measures, there is some evidence that tests can reassure patients, even when the test is invasive and unpleasant. For example, open access endoscopy for dyspeptic patients provided reassurance for 70% of patients with no or minor abnormalities, and this was coupled with lower subsequent consultation rates and symptoms (Hansen *et al.* 1991). A randomised controlled trial of investigations for non-specific chest pain (electrocardiograph and creatinine

# Do investigations reassure patients with no organic pathology?

phosphokinase levels) demonstrated that investigated patients reported lower levels of short-term disability and increased satisfaction with their consultation compared with patients not investigated, although there was no difference in long-term disability (Sox *et al.* 1981). However, although demonstrating normal coronary arteries by cardiac catheterization in patients with non-specific chest pain was reassuring in one study (Faxon *et al.* 1982), other similar studies reported higher levels of functional disability, beliefs that chest disease was present, and psychological distress (Ockene *et al.* 1980; Potts & Bass 1993). Also, several observational studies have found that investigations have not predicted symptom resolution or measures of reassurance in patients with benign headache, irritable bowel syndrome or chest pain.

These conflicting results may be partly due to differences in management in the different clin-

ics, as well as differences in the type of patients investigated. Channer *et al.* found that patients with chest pain associated with neuroses and depression at presentation had not been reassured by a negative exercise test at follow-up, but patients with low levels of anxiety and depression became pain free (Channer *et al.* 1987). Likewise, a study of headache found that patient satisfaction with the neurological consultation was related to the absence of anxiety and depression rather than any investigations (Fitzpatrick & Hopkins 1981). Pre-existing health anxiety does seem to be a factor: in patients undergoing gastroscopy, the news that there was no organic disease gave immediate reassurance, but in those with high health anxiety, worries about illness returned to pretest levels within as little as 24 h (Lucock *et al.* 1997).

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Most patients appear to be reassured by normal investigations, but patients with high levels of psychological morbidity may not be adequately reassured

levels of psychological morbidity may not be adequately reassured. Theoretically they may even be made worse, according to cognitive models of anxiety. Such models predict that if, after verbal reassurance, the doctor asks for an investigation, the patient may suspect that the doctor has missed something or is uncertain of the diagnosis, so that subsequently, despite normal results, a cycle of further investigations is initiated. The neurologist therefore needs to be aware of 'fat folder' patients (i.e. patients with a history of numerous consultations and investigations) who have failed to be reassured about the benign nature of earlier symptoms and who repeatedly seek reassurance; further investigations in such cases only reinforce the patient's belief that even more investigations are necessary.

Other additional factors will influence the process of reassurance, e.g. the accuracy of patients' medical knowledge and illness beliefs, and cognitive errors such as catastrophizing i.e. overestimating the probability of feared events. Doctor variables are also important. The ability of doctors to perceive correctly their patients' attributions (e.g. cancer as a cause of their symptoms) is related to reduction in patient concerns after the consultation (Van Dulmen *et al.* 1995). Doctors' perceptions of pressure from patients to investigate is a stronger independent predictor of doctors' behaviour than patient preferences (Little *et al.* 2004); doctors therefore need to elicit *patients'* expectations, and not rely on their *own* perceptions of pressure from patients to investigate, to limit unnecessary use of resources and iatrogenesis. The communication skills of the doctor, the level of diagnostic uncertainty, and their experience are also likely to determine whether a patient is reassured by verbal explanation only.

If investigations are requested, the patient is more likely to be reassured if the clinician can use the normal result to modify symptom attribution (Price 2000). For example, in a study of chest pain, outcome was better after angiography in those who accepted that their pain was related to oesophageal disorders than in those who continued to believe in cardiac causes (Ward *et al.* 1987)

#### POTENTIAL HARM OF INVESTIGATIONS

There are potential risks in ordering investigations for the sole purpose of reassurance. For example, ordering investigations influences patients' expectations of future care – patients

who were investigated in outpatients were more likely to feel that investigations should be carried out for symptoms they experienced in the future than patients who were not offered tests (Faxon *et al.* 1982). Borderline normal or false-positive findings may lead to unnecessary concerns, further investigations and procedures, any or all of which may be physically or psychologically harmful (Page & Wessely 2003). For example, unnecessary anxiety may be created or reinforced, some patients may have an anaphylactic reaction to the intravenous contrast given during neuroimaging, and others may be oversedated if they are claustrophobic during MR scans. Sudlow gives an extreme, though plausible, example of the patient with tension type headache whose MR scan shows an unrelated asymptomatic aneurysm that is coiled endovascularly but the procedure is complicated by a permanent hemiparesis (Sudlow 2002).

#### HOW TO REASSURE

The doctor must first establish what the patient thinks is wrong and give the patient the opportunity to fully discuss the problem, and its cause. Studies in patients with headache – and with bowel symptoms – have demonstrated that outpatient consultations can reduce fear of cancer, catastrophizing and actual symptoms by including a discussion of the problem and its cause, whereas investigations did not predict symptom resolution. Blanket reassurance that there is nothing wrong can make the patient feel the doctor is denying the reality of their symptoms. Research has shown that successful reassurance hinges on the patient's perception that the doctor has both understood and acknowledged his or her current problems, and indicated this by using appropriate and acceptable terminology (Donovan & Blake 2000). It is therefore important that the doctor takes a full history and examination, discusses the patient's concerns, and then provides information on the nature of the patient's problem, explicitly addressing any of the patient's underlying fears. Clear information on the presenting problem, explaining the cause of the patients' symptoms, is usually enough to reassure them.

Of course, some patients are more difficult to reassure than others, particularly those with hypochondriacal personality traits, underlying health anxiety, and high levels of psychological morbidity such as depression or anxiety. Some research suggests that 'wild card effects' can also

make patients resistant to reassurance, such as seeing a graphic portrayal of death from a particular disease in the media (McDonald *et al.* 1996). Fifty-seven percent of patients with worries about serious illness in a study of neurological management of headache had no psychiatric symptoms and their concerns arose from a combination of factors – for example, a patient with headache who heard of a neighbour's death from a brain tumour (Fitzpatrick & Hopkins 1981). In these situations, although an investigation that is not medically indicated may not reassure the patient, it may be cost-effective in their overall management. Otherwise, patients with high levels of anxiety may seek out a second opinion in order to obtain the investigation perceived as crucial in ruling out serious pathology, e.g. a brain scan to check a brain tumour is not causing chronic headache. There is evidence from studies of radiography in back pain that some patients not offered an investigation they perceived to be routine went on to obtain the investigation through another specialist (Jarvik *et al.* 2003).

It may therefore be helpful to the general practitioner for the specialist to provide a 'final definitive test' so that no further investigations need to be carried out. Although there is no evidence to date that the investigation will reassure the patient, our recent randomised trial confirmed that offering a brain scan to patients with chronic benign headaches and high levels of psychological morbidity significantly reduced subsequent service contacts and costs (Howard *et al.* in prep.). A 'definitive' test offered in sec-

ondary care may therefore help to limit the cycle of unnecessary referrals and further tests, but further research is clearly needed.

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## CONCLUSIONS

- It is usually both unnecessary and unhelpful to investigate patients who have no organic pathology – patients can usually be effectively reassured by the consultation alone.
- Some patients may be particularly difficult to reassure, and investigations may then be indicated if it is clear to the patient and the general practitioner that this is the final investigation for the symptoms, and that no further referrals or investigations are necessary.
- Investigations in hypochondriacal patients serve to reinforce their need for even more investigations, rather than effectively reassure.