

reminded of the dictum "never have anything investigated until you know what it is." Finally, a false negative scan may be due to poor technique, movement artefact, or low resolution.

Scanning is an important advance, but it has not removed the need for clinical assessment. Of course mistakes will be made if clinical or indeed any other judgment is the basis of decision—but that is hardly a justification for universal scanning.

BRYAN ASHWORTH

Consultant Neurologist,
Northern General Hospital,
Edinburgh EH5 2DQ

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Stones, lithotripters, trials, and arguments

Two papers on extracorporeal shock wave lithotripsy for renal and ureteric calculi (pp 877 and 880) sketch out the now classic scenarios for introducing new techniques in either diagnosis or treatment. On the one hand are the innovators, seized with what they see as the relentless logic of their proposal but perhaps blinded by their closeness to the problem. On the other hand are the analysers, who wish anything new to be subject to what they regard as the only satisfactory form of assessment—a prospective randomised controlled clinical trial.

The two views are polarised. Inevitably mine are also biased. It was William James who said: "Neither the whole truth nor the whole of good is revealed to any single observer although each . . . gains a partial superiority of insight from the peculiar position in which he stands."¹ Is it possible to acquire a corporate insight so as to reconcile the opposing views and perhaps find a vantage point of consensus? I believe so, though it requires hard thinking as well as compromise.

The champions of new technology may well urge innovation for many of the insufficient reasons discussed by Challah and Mays, though not all of those proposed are necessarily relevant to the present case. We may perhaps distinguish, however, within what these authors regard as insufficient grounds, the two circumstances of unbridled speculation and of rational inference from established premises. It is indeed speculative to say that because I can cool the mucosa of the stomach to freezing point I will then permanently ablate the power of parietal cells to secrete acid while at the same time doing the patient no harm. It is considerably more removed from speculation and therefore closer to rationality to believe that if I can bring to bear a disintegrating force on a ureteric stone and so fragment it then the stone debris will pass and the patient's present problem be relieved. The one is a new and unsubstantiated venture in the physiology of gastric secretions, the other merely an alternative technique of stone removal.

Clearly the current side effects and long term outcome of an alternative technique cannot be examined by a study which does not make contemporaneous and preferably random comparison. The innovators would counter this by saying that there are a priori grounds for belief that side effects will be small and that there are no rational grounds for believing that the long term results would be different from those of operative extraction. They might also go on to say that those who use historical examples of florid disaster from

failing to carry out controlled trials neglect the distinction I have drawn between speculation and rationality; trialists also conveniently ignore counterexamples such as antisepsis and asepsis, rabies vaccine, penicillin, and appendectomy for acute appendicitis, all of which have gained the high ground of therapeutic acceptance without the benefit of a clinical trial. If we wished to make a frontal attack on Challah and Mays we might ask them if they would care to have an operation performed on themselves using the kitchen as the operating environment, a dirty knife wielded by a gentleman in a filthy frock coat as the instrument, and without benefit of anaesthesia—because neither antisepsis nor anaesthesia has been subject to clinical trial. But this would be to win a debating point and not to resolve the issue—which is in 1986 whether any new, complex, and expensive treatment should be introduced without prior assessment by a prospective controlled trial.

One feature which helps in deciding if a new treatment is on the face of it a rational substitute for an old is asymmetry in relation to complications or the disturbance it produces in the patient. If by the nature of things something deleterious cannot happen with one treatment and is a potential or actual happening with another then asymmetry is apparent. A simple example in the present case is leakage of urine and wound infection—possible for open or percutaneous nephrolithotomy but both out of the question for extracorporeal shock wave lithotripsy. One version of Occam's razor is then satisfied: it is vain to do with more what can be done with less.

Proponents of controlled trials would argue, however, that the central question is the direct comparison of the two treatments and that this can be done with full intellectual satisfaction only if these are applied at random to a sample believed to be representative of the population with the disease. Clearly this is the case, but in each instance a question and a condition remain: firstly, is the precision of the direct comparison of more or less importance than the asymmetry factors to which I have referred? and, secondly, as Challah and Mays agree, there must be stability in the therapeutic process where the change is proposed rather than a rapid evolution. (I find their argument about the "danger"—an emotive word—of using historical controls in such circumstances a difficult one to follow).

If we are to use history as a guide (and, as I have argued elsewhere, we must do so because all experience gained by whatever method becomes history²) we must also be prepared to organise our data and to limit our comparisons. Though

we can admire the pioneering work of Charig and his colleagues, they have not presented as convincing a direct case as they might had they chosen to cast their experience as a time series (p 880), showing how with the introduction initially of percutaneous nephrolithotomy and then of extracorporeal shock wave lithotripsy successive peaks of efficiency in stone removal had been achieved while at the same time complications had decreased and hospital stay diminished. Recent surgical models for this approach are the results of management of bleeding peptic ulcer by a combined team³ and of large bowel obstruction by immediate resection often accompanied by reconstruction.⁴ In my view this is not a substandard way of making progress, though sometimes it leaves uncertainty about exactly which factors were important. Nevertheless, we can say that the urological team from the lithotripter centre is not entitled to make the type of intergroup comparisons that it has done because these are suited only to random samples obtained from a well constructed prospective experiment. Such inadequacies of logic and the statistical malfeasance that is shown weaken the case for the introduction of a new technology without the full apparatus of a controlled trial.

To discuss the economic aspects of extracorporeal shock wave lithotripsy is difficult and would make this article far too long. The money side can be made to appear attractive but the assumptions which have to be made are ill established. Do we in the National Health Service, as would happen in the private sector, look for a "return" on capital while writing that investment down? We cannot. Do we really save money by shortening hospital stay for one condition while there is pressure on beds and resources for the treatment of other things? We do not. Matters being equal (and this is a pious hope in the real world) the appraisal of extracorporeal shock wave lithotripsy makes it look cost effective.

It is my view that Challah and Mays lay too much emphasis on the ineluctable superiority of the clinical trial in all circumstances and therefore on the need for anyone who

eschews its rigour to justify his case. Nevertheless, we should heed both their analysis of the clinician's antagonism (which to strengthen their case has to neglect some of the better reasoned opposition of the past few years) and their recommendations, which include the idea of an independent technology review board, a set of standards, and a voluntary code of practice by industry. This is all fine thinking and should be considered seriously but might justify a controlled trial to see if such measures were any more effective than our current system or lack of it. Considerable further debate without commitment to one or other polarised view is needed as well as hard thinking about each individual instance.

What of extracorporeal shock wave lithotripsy at the moment? The commonsense view of the man on the Clapham omnibus smitten with severe renal colic would surely be that it is the treatment of choice for his symptomatic "fixed" stones, though a fall back to percutaneous nephrolithotomy or even open surgery will be needed in 18-20% of stones over 2 cm diameter. The long term outcome is unknown but can scarcely be worse than other forms of removal. What is now needed is a prospective study to define particular problems and difficulties within subclasses of stones. This seems to me to be a better way forward than "blind" clinical trials, though these may be required for subgroups who are exposed by a more extensive analysis and longer follow up.

H A F DUDLEY

Director,
Academic Surgical Unit,
St Mary's Hospital,
London W2 1NY

1 James W. Quoted by Miller.⁵

2 Dudley HAF. The controlled clinical trial and the advance of reliable knowledge: an outsider looks in. *Br Med J* 1983;287:957-60.

3 Hunt PS, Hansky TJ, Korman MG. Mortality in patients with haematemesis and melaena: a prospective study. *Br Med J* 1979;i:1238-40.

4 Koruth NM, Hunter DC, Krukowski ZH, Matheson NA. Immediate resection in large bowel surgery: a seven year audit. *Br J Surg* 1985;72:703-7.

5 Miller G. *Psychology—the science of mental life*. Harmondsworth: Penguin Books, 1970.

Attitudes to drug abuse

Abuse of heroin continues to spawn official documents, statements, and actions—which draw on a multitude of conflicting opinions. This is scarcely surprising when we are not sure of the extent of the problem; all we know is that it is increasing. The medical evidence to government committees has mostly been given by consultants working with the existing units for the treatment of drug abusers and mainly in the London area. A contrast to this medical input has come from evidence from non-medical agencies, only recently drawn into the spotlight, notably social work departments and self help organisations. The present medical services for drug abusers contact fewer than 10% of them—a statistic that highlights the view that drug abuse is essentially a socio-political problem.

The conventional approach to the treatment of drug abuse sees it as having two stages: detoxification and long term support. Detoxification is a medical prerogative. Those who argue for humane withdrawal maintain that the present system fails to provide it—but evidence given to the Social

Services Committee¹ claimed that any humane system ran the risk of abuse. Concern has been expressed about the "cold turkey" withdrawal policy in prison and the increasing number of heroin abusers who are pregnant or have young children, and these groups may well require a special response. The solution recommended by the committee for the general population was a 24 hour telephone advice and counselling service. Such services have a non-statutory basis in the community and will need adequate statutory back up to deal with special cases.

Detoxification in prison requires careful monitoring and good physical care. The use of methadone is rarely appropriate, and other drugs create problems if given for any period of time. Other special cases such as pregnant women certainly require specialist advice, but this rarely means inpatient treatment. Possibly there may be an element of "defending their own corner" from those with inpatient units. Certainly the management of withdrawal should be demystified so that its features are understood by social workers, probation