



High-Tech Medicine

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Abstract – *Modern medicine has advanced along with the technological advances in other fields of human endeavour. Newer gadgets have helped to unravel the mysteries of many diseases. Unfortunately, the other side of the coin has not been very satisfactory. It is sad to see the pro-technological monster eroding the very foundation of the time-honoured wisdom of Clinical Medicine. The latter could be profitably used to allay the anxiety of around 80% of the sick population in most developing countries. The profession should try to guard against the unscientific onslaught of technology on medicine. One should, however, emphasize the need to take periodic audit of the clinical methods as well.*

Man has landed on the moon, made possible by modern technology. The fall-out has been beneficial to medicine as well, since many unknown and ill-understood facets of diseases have been unravelled by the newer electronic gadgets, fiberoptic scopes, and scanners of various types. So far so good. The other side of the coin is more interesting.

'Newer gadgets must be used only to unravel the mysteries of diseases', said Sir Thomas Lewis in 1926.

The atmosphere in clinical medicine has now been clouded by modern technology. Don Berwick of Harvard Community Health Plan summed up the present American Medical scene thus: 'technology out of control, rising costs, variation in care, rising malpractice suits, angry payers, hospitals going broke and patients afraid'¹.

The case of coronary care units is a standing example. First started in Toronto, Kansas City and Philadelphia in 1962, they are sprouting like

mushrooms even in far off places. It is uncertain if the patient benefits by being in a conventional Coronary Care Unit (CCU) at all^{2,3}. Over 7,50,000 patients are being treated in CCUs in USA alone every year who turn out not to have any myocardial infarct; at a cost of four billion dollars.

The idea of CCUs conceived 25 years ago has gone out of fashion and newer life saving techniques like thrombolysis, coronary angioplasty and emergency bypass surgery are the till movers of the 1990. Recent advances in therapy now require that 'we change or fine-tune, the concept of coronary care units'⁴. We in India are now trying to build the outmoded, outdated and useless CCUs even in our remote small hospitals where they are counter-productive⁵ but are a good profit-making commercial proposition.

The American College of Cardiology in a policy statement in 1989 stated that 'bypass surgery and angioplasty are not curative and the only hope for

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the future is to try and prevent coronary artery disease'. What we see in practice is the reverse of this. Hardly anyone worth his salt is doing any work in the field of prevention but we add everyday one centre for bypass surgery in our country, again a good business proposition.

The 'risk factor' hypothesis, originally conceived by the Framingham studies, has been twisted out of proportion and the whole population is urged to shun fat (cholesterol) even though it is known that 50 per cent of the population is immune to atherosclerosis and in the other 50 per cent we still do not know the exact role played by diet in producing the end results of atherosclerosis like sudden death, stroke and heart attacks⁶. The cholesterol saga smacks of the dirty hand of the vested interests trying to build an empire of low fat diets and exercise outfits. If people had followed correctly the dietary advice of the medical profession, many would have died of essential fatty acid deficiency. It is a fashion these days to have a CAT scan in every person with a headache, consequently well over 90 per cent of scans are negative.

Even some of the therapeutic procedures based on high-tech methods are of dubious value. Thrombolytic therapy is one such expensive tool. The recent Helsinki Gemfibrozil Study to lower bad blood fats, recorded higher deaths in the drug treated group compared to placebo⁷.

A new business has started in human organ transplants. Transplanting a liver in a heavy alcoholic or a heart in a heavy smoker (making them better cripples) is both unethical and uneconomical socially. The same money can be used to cure thousands of people dying of communicable diseases in the Third World. Clandestine sale of human organs with the broker making a fortune is a direct fall-out.

These are only a few glaring practices, but there are a lot of others in various other fields of medicine. A good history and thorough physical examination is useful in arriving at a diagnosis in about 80 per cent of the patient population even today. Only in about 10 per cent of the patients modern gadgets refine the diagnosis slightly⁸.

Medicine revolves round allaying anxiety, both in the patient and the doctor. The patient has the anxiety about death or dying and the doctor about doing too little or too much for his patient. If, in the bargain, clinical medicine is forgotten and the

doctor tries to allay his anxiety by relying on high-tech medicine, results could, at worse, be disastrous.

The profession 'must demonstrate that technologically sophisticated and expensive modes of tests and therapy are worthwhile'⁹. Technology keeps on changing daily and the anxious doctor will not be satisfied unless he gets the best. Tall claims are made daily about newer gadgets. 'Positron Emission Tomography offers the opportunity for acquisition of data available by no other manner in the current era' avers an editorial comment in a recent issue of the American College of Cardiology Journal¹⁰.

At this rate where is the end? Very soon some five-star hospitals in India will acquire P.E.T. and then it will be advertised as the only way of studying diseases. Our only weapon against these technological onslaughts is to strengthen clinical medicine.

I would like to end this paper by emphasizing the need to refine our clinical methods¹¹ through periodic auditing.

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