



The Future of (Western) Medicine

On a recent visit to Stockholm, partly to oversee the BioUpdate Foundation Heparins course, I found myself in the pharmacy at the central station, perusing the common cold remedies. The first thing which struck me was that these were not the chemical drug remedies that I would find in a UK pharmacy, but most were derived from natural plant materials, even those that were branded by the familiar multinational names. A few years ago, I noticed a similar trend in a Greek pharmacy when one of my family had what we in the UK call a “gippy tummy”

This set me to thinking about the differences between standard chemical based prescription medicines and traditional or alternative therapies. Some of these natural remedies are highly effective, as was the Swedish cold remedy. A few years ago I took on a project with an interesting story. This drug development had started with a London hospital skin specialist who noticed some of his patients were improving and was wise enough to realise it was not the result of his treatment. He pursued the matter and found they were all going to the same Chinese herbalist, and the herbal remedy did indeed contain an effective therapeutic agent.

I have long thought that the major difference between modern and traditional medicines is that modern drugs are highly effective for the majority of the population, but traditional remedies may be helpful for only a smaller number of people. If they were totally ineffective, I can not imagine that they would have held their place in folklore.

The effectiveness of modern medicines does vary from patient to patient and this is often ascribed to genetic differences in drug metabolism. The variability of CYP2D6, a P450 cytochrome, has been well studied. The drug target itself may also show generic variability also leading to patient to patient differences.

The drugs industry is in meltdown, all the major players have had significant redundancies and site closures in recent years. Principally this is because the drugs business has changed: the age of the block buster drug is over. Quite simply we do not need better heart disease drugs, or better cholesterol lowering drugs, for example, so there is no market for improved drugs. Unfortunately new drugs have long lead times and many drug discovery groups were locked into failure before the change was noticed. As the blockbusters came off patent, there were no new blockbusters to replace them and the pharmaceutical industry was badly hit financially.

So where is the drugs industry going? There is significant unmet medical need in specialised areas, for example in areas of oncology, where gaining a significant level of penetration in a smaller market can be profitable enough to satisfy the shareholders. But that won't last for ever, the specialist market will get smaller and smaller. The answer might be to take a note of the traditional or alternative therapy market, though not in the sense of selling traditional herbal remedies.

Rather than a high degree of penetration into a small market, perhaps we should consider a low level of penetration in a significant market. This would take some mental adjustment, especially by government agencies that would have to approve medicines which might be quite ineffective for most of the population. But perhaps it is no more than we already allow for traditional or alternative medicines, and there is some evidence that these are becoming more acceptable to the medial

profession. Rheumatism and arthritis, for example are difficult to define and these terms cover more than 200 conditions. This makes them difficult to treat but these diseases affect many people. The American College of Rheumatology states (<http://tinyurl.com/pgcovf5>) that over 7 million Americans suffer from inflammatory rheumatic diseases. Elsewhere there are signs that alternative therapies, which perhaps are only effective in a minority of cases, are being taken seriously. The UK National Health Service web page on the treatment of rheumatoid arthritis (<http://tinyurl.com/bvyogjk>) has a box marked "Complementary and alternative therapies". Open the box and one of the links directs you to the Arthritis UK Research website (<http://tinyurl.com/p3wrvmk>) which names 3 herbal medicines claiming "all of which are backed by some research".

If you don't think it is worth developing medicines which are effective for only a minority of patients, consider the following ethical dilemma. You are a physician with 100 patients, all of whom are terminally ill. The only medicine you have will be effective for only 30 of those patients. What do you do?

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