From the Kitchen

14 December 2011

There is a misuse of placebos in trials of pharmaceutical drugs. The placebo is supposed to be something that has no pharmacological effect, but in many trials this is not the case. There was a trial to examine the efficacy of a 'natural' remedy (an antioxidant). The trial concluded that it was no better than the placebo. What wasn't made clear was that the 'placebo' used was vitamin C, known to have a beneficial effect in all manner of conditions, partly through its anti-oxidant properties. In researching one 'natural' remedy, the researchers assumed that another 'natural' remedy would have no effect and could therefore be used as a placebo. In another trial, looking at the effect of sugar on the behaviour of children, the 'placebo' used was chocolate biscuits!

Many doctors assume that a drug they prescribe may be beneficial to the patient in front of them, because trials have shown that it was effective for a sufficiently large number of people in clinical trials. The doctor has no idea whether that drug will be of any benefit to that patient in that particular instance. A doctor will often give a patient a prescription for a drug with the rider: "See if this helps and let me know." Allen Roses was a marketing manager for the pharmaceutical company GlaxoSmithKline. He is on the record as saying that "over 90% of drugs work for only 30% - 50% of patients who take them." [1] To put this another way, fewer than 10% of drugs work on 50% - 70% of patients who take them.

As a patient, you are asked to take part in an ongoing experiment to see which drugs work for which people in which circumstances.

When did you stop being important?

The name William Coley probably doesn't mean much to people today, some 75 years after his death. He worked as a surgeon at the Memorial Sloan Kettering Hospital in New York towards the end of the 19th Century. He was frustrated at losing so many bone cancer patients, despite early diagnosis and prompt surgery. Being an avid researcher, he trawled through the hospital records of bone cancer patients, going back over 15 years. Most records indicated failure and death. However, there was a record of one patient who was considered to be close to death, but who made a seemingly miraculous recovery. What set this patient apart was that he had suffered two attacks of infection from *Streptococcus pyogenes*.

True scientist that he was, Coley sought to learn from this one case, and started injecting cancer patients with *Streptococcus* cultures, but without success. Only when he was able to obtain a very virulent strain from Germany, did he have success. The patient had tumours on his tonsils and in his neck. When injected with this virulent strain, the patient developed a high fever and the cancers completely disappeared.[2]

Eventually, Coley moved to using the toxins developed by the *Streptococcus*, together with the toxins produced by *Bacillus pordigiosis*, which caused the patients less trauma. Production of the toxins was supervised at the hospital. Toxins were also produced commercially by Parke-Davis (Formula #XI), but these were less effective (37% cure rate), because the formula was heated.

In the early part of the 20th Century, Coley's boss at the hospital started experimenting with radiation for cancer treatment. Patients responded well initially, but then succumbed to their disease. Despite this, radiation therapy was seen as the promising cure-all which would eventually prove to make all other treatments obsolete. Coley's toxin treatment fell by the wayside.

Some doctors kept using the treatment after Coley's death in 1936, and there are some who are still using and developing it today, with good results.[3]

Why is it that a treatment which was producing such good results is no longer in vogue? Could it be that it needed to be customised for individual patients? Was the lure of high-tech (e.g. radiation) too tempting? Why has at least one eminent doctor who was using the treatment in Germany jailed on trumped-up charges, and then acquitted?[4]

There certainly have been treatments over the years which have deserved to die out for lack of efficacy or because something much better has been developed. But there are also many which have simply gone out of fashion, or the 'established' profession has not liked it. What are we missing out on in possible alleviation of suffering and elimination of disease?

One thing we are missing out on is the individual treatment which would in many cases lead to better outcomes.

[to be continued in the next post]

1. Report on a statement by Allen Roses, *BBC News World Edition*, 8 Dec. 2003 - http://news.bbc.co.uk/2/hi/health/3299945.stm
2. Coley, William B. "A Preliminary Note on the Treatment of Inoperable Sarcoma by the Toxic Product of Erysipelas." *Post-graduate* 8:278-86, 1893.
3. Havas H, et al. "The effect of bacterial vaccine on tumors and immune response of ICR/Ha mice." *J Biol Res Mod*. 1990;9;:194-204.
4. Issels, Josef, *Cancer: A Second Opinion*. London 1975.