

## Antibiotics in preterm labour

babies born at less than 34 weeks' gestation. In the late 1970s, caffeine treatment was shown to reduce these episodes and then became used by some paediatricians.

However the effects of caffeine remained disputed. Although fair tests had shown that caffeine reduced the episodes of apnoea, many paediatricians did not think that the episodes were sufficiently serious to justify use of the drug, and some were concerned that it might not be safe in these tiny babies. This meant that some babies were given the treatment and others weren't. When these widespread uncertainties were finally assessed by a large international study more than 30 years after the treatment had been introduced, it turned out that this simple therapy not only reduces the breathing difficulties but also, and very importantly, significantly improves the likelihood of long-term survival without cerebral palsy and delay in infant development. Had this uncertainty been addressed when the treatment was introduced, fewer babies would have gone on to develop disabilities.<sup>15,16</sup>

### Antibiotics in pre-term labour

Fair tests of treatments with hoped-for beneficial effects, and which are assumed to be harmless, can show that neither is true. Doctors prescribe treatments with the best of intentions, particularly when they may offer hope in a desperate situation. For example, a theory suggested that 'silent' (sub-clinical) infection might trigger early labour and preterm delivery. The theory led doctors to prescribe antibiotics for some pregnant women in the hope that this might help to prolong pregnancy. No one seriously thought that using antibiotics in this way would cause any serious problems. Indeed, there is some evidence that women themselves were keen to have antibiotics – in a spirit of 'let's try this; it can't do any harm'.

When a fair test of this treatment was eventually done, the results had clear clinical implications. For a start, no benefits were identified. On top of that, long-term follow-up of the babies in the study showed that those who had been exposed to antibiotics were more likely than those in the comparison groups to have cerebral palsy and problems with speech, vision, and walking. These risks of antibiotics had remained unrecognized over the decades that

### DOCTORS TALKING ABOUT GUESSWORK IN PRESCRIBING

In a fictional conversation between two doctors, a general practitioner makes the following point: 'Tons of what we do is guesswork and I don't think that you or I feel too comfortable with that. The only way to find out if something works is a proper trial, but the hoops are huge. So what do we do? We do what we fancy. And I'm sure some of the time it's fine – clinical experience and all that. Maybe the rest of the time we're just as likely to be getting it wrong as right, but because whatever we're doing isn't called a trial, no one regulates it and none of us learn from it'.

Adapted from Petit-Zeman S. Doctor, what's wrong?

*Making the NHS human again*. London: Routledge, 2005, pp79-80.

antibiotics had been prescribed to women, but without adequate evidence from fair tests about their effects. As often happens, those who were given an inadequately evaluated treatment in 'normal' clinical practice were more likely to be harmed than those given the same treatment prescribed in a research context. Put another way, people were generally more at risk when they were not taking the drugs as part of a fair test.<sup>17, 18, 19</sup>

#### Breast cancer

The treatment of breast cancer (see Chapter 3) provides another example of professional uncertainty. There is considerable variability in the use of surgery, radiotherapy, and chemotherapy. The best treatment of very early stage breast cancers and of 'pseudo-cancers' of the breast is unresolved, as is the ideal number of lymph nodes to remove from the armpit, or indeed whether any should be removed at all.<sup>20</sup> As if that were not enough, topics of particular interest to patients, such as relief of fatigue associated with therapy, or the best way of treating lymphoedema of the arm – a distressing and disabling aftermath of surgery and radiotherapy in the armpit – still have not been tested adequately.