

*Patron: Laura Hamilton*

## Medicines in Pregnancy

When a child is born with a limb deficiency, parents often express concern about medicines taken in pregnancy. Joanne Rowe goes in search of evidence as to whether antibiotics could be to blame for limb deficiencies.

When a child is born with a limb deficiency it is almost inevitable that the baby's family will search for a cause. Unfortunately, for the vast majority of Reach parents, the health experts are unable to give an explanation. This invariably means that we look back over the pregnancy and try to pinpoint things we may or may not have done which could have affected our unborn babies.

Since the thalidomide scare drugs have been the most obvious target for possible blame when a child is born with abnormalities. This raises the question as to whether the prescription or over-the-counter medicines, in particular antibiotics, that mothers took during pregnancy could have caused their child's limb deficiency.



One such mum was Eva Smus, whose son Yiddi was born with only part of his left palm and finger buds present. When Mrs Smus was between six and eight weeks pregnant she became ill with tonsillitis and her doctor prescribed antibiotics. Mrs Smus had taken the recommended folic acid supplements and only had two or three paracetamols during the rest of her pregnancy so when Yiddi was born she was convinced his limb deficiency was the fault of the antibiotics.

"It was the first thing that came into my mind. It was the only thing," she said.

And she says the doubt about the antibiotics will always be at the back of her mind until the cause of limb deficiency is proved.

## “What is known?”

Sadly, no one knows for definite that drugs cannot cause limb deficiency but here we try to look at the available evidence, although this is very slight, and find out the views of health professionals.

According to Judy Priest, author of "Drugs in Conception, Pregnancy and Childbirth" until the mid 1950s there was a fantasy that drugs could not harm unborn babies and could only be beneficial. Laws governing the testing and sale of drugs were lax and so when, in the 1960s, the anti-morning sickness drug thalidomide was found to have caused terrible damage to thousands of babies, it came as a dreadful shock and the world became wary of drugs.

These days laws are tighter governing the testing of drugs and GPs are cautious about prescribing them to pregnant women.

The British National Formulary states "drugs should only be prescribed during pregnancy if the expected benefit to the mother is thought to be greater than the risk to the foetus, and all drugs should be avoided if possible during the first trimester."

## Effects of drugs in pregnancy unknown

Alarmingly, according to Mrs Priest, two thirds of all drugs available on prescription have no background data about their effect on pregnant women and unborn babies and drug companies face major problems when it comes to deciding whether new products are safe for use in pregnancy. Tests can be done on animals but there are ethical as well as practical considerations which mean tests on pregnant women cannot be done.

Even so, Mrs Priest thinks today's drugs are an unlikely cause of limb deficiency. "If there are, say 3,200 women giving birth it is likely that one of them might have something wrong with their baby that is caused by a drug. In most of that the drugs which would be given would be prescription drugs for a significant illness like epilepsy or alcoholism," she said. "So the chances of you and me who are fine, OK, straightforward women, doing anything that would have caused a deficiency in our babies is so tiny that it doesn't bear thinking about. "The cause is more likely to be one of the 700 or so chemicals that are invented every year for everything else that we can't avoid because we live here in this world. "Mrs Priest stresses that if a mother is ill and does not take a drug to help alleviate her symptoms this could also put the unborn child at risk and the two factors need to be balanced when deciding whether to take medicine.

It is a point backed up by Dr Mark Denman Johnson, the Isle of Wight GP who carried out a study into the possible causes of limb deficiency.

He mentioned that some studies of pregnant animals have shown that high fevers could have an effect on their unborn offspring, although this has not shown up in his own study of children with limb deficiencies. He stressed that it is also difficult trying to establish whether a drug has caused a limb deficiency because of problems deciding whether it was the drug at fault or the illness for which it was taken. However, he added that he has found no evidence that antibiotics have caused limb deficiency. In 1992 less than one in 100 babies was born with a congenital malformation and, of these, less than one percent could be directly linked to prescribed or over the counter drugs.

### Increasing use of antibiotics

Mrs Priest's book states that recent studies have shown 80 percent of women take one or more drugs while they are pregnant and it is estimated that 10 percent of pregnant women are prescribed antibiotics.

With the increased use of antibiotics over the last 50 years health professionals agree that if they had been to blame for limb deficiency then limb centres would have been seeing children with limb deficiencies in rising numbers.

Dr Herbert Day, former senior medical officer at the Manchester disablement services centre and chairman of the Amputee Medical Rehabilitation Society working party which produced the recommended standards of care for congenital limb deficiency, kept records which prove the numbers of children born with limb deficiencies over a 30 year period have remained constant. In the decade up to 1968 there were 106 children referred to the centre with transverse upper deficiencies, 112 in the following decade and 113 in the 10 years up to 1988. Longitudinal deficiencies follow a similar pattern with 23, 21 and 27 referrals each decade and lower limb deficiencies seen were 41, 34 and 33 over the same time periods.



### Scepticism

He is sceptical that a drug or toxin could have caused the deficiencies which, in most of our children, affects just one limb. "If you take a poison how can it affect half your body? This seems to me to be the classic thing that is against unilateral abnormalities coming from some sort of toxic agent," said Dr Day.

To back up his point he added that in the cases recorded of thalidomide victims, all had bilateral longitudinal deficiencies, affecting either all four limbs or both upper limbs. None were affected on only one side.

Understanding how the foetus develops is the key to discovering what went wrong in our children's case, but unfortunately research has not progressed far enough to give us the answers.

A minority of limb deficiencies do have recognised causes. These are where the individual has an inherited genetic disorder, a syndrome such as Poland syndrome or Cornelia de Lange syndrome, there are rare cases of chromosomal abnormalities and the known toxic agents such as thalidomide as previously mentioned.

### More questions remain

The majority of remaining limb deficiencies are mainly transverse in nature and it is still unknown why the left side is affected twice as often as the right, why it is more common in girls than boys and why a deficiency just below the elbow is the most common whereas one just below the knee is extremely rare. These differences, Dr Day argues, point away from drugs being the cause and he believes scientists will eventually discover the responsibility lies with genes.

"It would be very facile and simplistic to say that the development of limbs is a complicated process and it is amazing it doesn't go wrong more often," he said.

"We are finding out gradually that more and more of our health is determined by genetic peculiarities."



### Further reading:

"Drugs in Conception, Pregnancy and Childbirth" by Judy Priest is published in paperback by Thorsons priced £9.99.

"Congenital Limb Reduction Defects, Clues from developmental biology, teratology and epidemiology" by Nigel Brown, Judith Lumley, Cheryl Tickle and Janet Keene is published by The Stationery Office priced £19.99. This is a major academic work aimed at health professionals.