

## Polio Particles 24

Mary Westbrook

### **No polio vaccination, no travel**

As a result of the alarming rise in polio cases in India *WHO is considering asking the Indian government to issue an order whereby Indians travelling abroad will have to ensure that their children travelling with them are vaccinated against polio. The order, if implemented, would mean that children below five years of age will have to get certificates from a doctor* (Indian news website rediff.com, 25/9/06). Last year the spread of polio to Indonesia from Saudi Arabia was thought to have occurred via Haj pilgrims. Saudi Arabia has announced it is now mandatory for travellers who are under 15 years of age to have up-to-date proof of polio vaccination in order to obtain entry visas to Saudi Arabia. Additionally all children under 15 arriving from countries reporting wild polio will be given polio vaccinations at Saudi border points. In India polio free certification will be given to Hajjis by their district health official. The Indian Health Secretary said: *The sanctity of the pilgrimage is affected if the message goes out that polio is spreading through Haj. It gives the pilgrimage a bad name. We are telling Uttar Pradesh [the Indian state with the highest rate of polio] that they will be hemmed in for travelling if they continue to export polio.* (IBNlive.com)

### **Call for development of drugs to treat polio**

When we contracted polio there were no drugs with which to treat it. With the development of the Salk and Sabin vaccines, research into possible treatments for the polio infection virtually ceased. As discussed in previous *Particles* the fear remains that there may be future outbreaks of polio despite the eradication campaign. Now a committee of the US National Research Council has recommended that antiviral medications to treat people with polio be developed (Associated Press 10/03/06). The committee said that: *The development of one or more antiviral drugs against poliovirus, although expensive, serves as an insurance policy that provides an additional means of reacting to repeated outbreaks due to continued circulation of Vaccine-related strains, should they occur.*

### **Goat with polio**

*Our neighbour's goat was just diagnosed with polio. We thought this disease had been eradicated. Is polio in goats contagious to humans? How dangerous is this?* This query was sent to Pete Keesling, a Californian veterinarian, who writes a bi-weekly advice column in the *Gilroy Dispatch* (5/9/06) He replied: *First, let's make it clear that polio in people has not been totally eradicated. It's extremely important that most children be vaccinated for this terrible disease. Recent reports show that some people have not taken their children in for vaccinations, leaving them potentially susceptible to devastating consequences if they are exposed to this contagious virus. On the other hand you have no need to worry about the neighbour's pet. Polioencephalomalacia (polio) in goats is not caused by a contagious virus, but results from abnormal Vitamin B-1 metabolism. In many cases this polio can be successfully treated with injections of vitamins and the patient can make a full recovery. So even though the goat's neurologic symptoms seem similar to those suffered in humans infected with the polio virus, the*

*disease is significantly different in goats. So the good news is that goats with the disease can recover and do very well with few long-lasting effects.*

### **Feelings of déjà vu**

*The talking point at the wedding was not about the bride's beauty. And she was impossibly or extremely beautiful. The dominant comment was about the bridegroom's 'stupidity'. He was tall and had an athlete's stature, not the one enhanced by steroids. But not even steroids could do anything for the bride's left leg. It was thin and shorter than the right one. Polio had made her almost a cripple. Many people commented that the man was foolish to have chosen such an obviously deformed woman as his bride. Someone claimed it was not love but a love potion that led the man to propose to the lady. And there was a time during the ceremony when the bride had almost fallen on her face...dancing was apparently new to her. She may not have had many dates before her wedding. Not many young men care to take a polio victim dancing. This was the beginning of the editorial in the *Nigerian Tribune* (31/10/06). I'm sure this story will remind many polio survivors of feelings associated with not being considered socially or matrimonially acceptable particularly when they were young. The editorial went on to criticise the many Nigerians who think that polio is caused by *the cannibalism of a witch* rather than by a virus. Such beliefs and rumours about the dangers of the polio vaccine, the editorial said, have caused resistance to vaccination. As a result Nigeria accounts for more than half the world's polio cases and is transporting polio to other countries. The editorial ended with the following scenario: *It is 2028 and a wedding reception is being held. 'Look at the bride,' one woman says to her friend. 'What great legs she has'. The mother of the bride is within earshot. She smiles broadly though her own left leg is withered.* The scenario reminded me of the relief that I think most survivors felt when the advent of the Salk vaccine meant their children could never get polio. It reminded me also of the anguish and anger we sometimes feel at some Australian parents' refusal to have their children vaccinated.*

### **Murder concealed by diagnosis of polio**

If you enjoy a good detective yarn then a current US murder case will be of interest. Sally Mercer, the 31 year old wife of a Michigan physician Charles Mercer, died at her home in 1968. Her eight year old daughter found her body when she returned from school. Emergency medical workers on the scene said Sally's fists were clenched as if she had been in a struggle. A detective at the autopsy noticed multiple bruises (which can still be seen on photographs taken at the autopsy). As the detective had previously been an apprentice at a funeral home he realised during the autopsy that the body had already been embalmed. When questioned, the pathologist Dr Black said he had embalmed the body as he had not noticed any trauma. Dr Black ruled that Sally died from bulbar polio. This cause of death was accepted despite the fact that Sally had written to a friend saying she was afraid her husband might kill her. She knew Charles was having an affair and he married his lover soon after the death. In June this year Sally's husband, now aged 72, was brought before a preliminary hearing when the case was reopened. A second recent autopsy found lethal levels of a powerful pain reliever, propoxphene. Charles' defence lawyer argued that the polio verdict was reasonable given that two other local women had died from a viral infection around the time of

Sally's death. Her daughter testified at the preliminary hearing that she had always believed that her mother died of polio. Dr Black, the pathologist, died in 1981. On January 25<sup>th</sup> a Michigan District Judge ruled that Charles be tried for murder. He remains free on a \$1 million bond. The trial will probably be set for later this year. The Lansing State Journal was my main source for reports of this case.

### **Ups and downs of polio rates in 2006**

There were 1874 cases of wild virus polio notified in 2006 compared to 1749 in 2005. However the distribution of cases was very different. In 2005 there were 778 (44.5%) cases in endemic countries and 971 (55.5%) in non-endemic countries. Last year there were 1756 (93.7%) cases in endemic countries and only 118 (6.3%) in non-endemic countries. Countries recording marked increases last year were India (624 in 2006, 62 in 2005), Nigeria (1062 in 2006, 675 in 2005), Namibia (19 in 2006, 0 in 2005) and Afghanistan (31 in 2006, 7 in 2005). A marked decrease occurred in Somalia (33 in 2006, 131 in 2005). On 12/10/06 WHO announced the first case of polio in Kenya in 22 years. It was found in a 3 year old Somali in a refugee camp in north east Kenya but only one further case occurred. Other countries which had no polio cases in 2005 but reported cases in 2006 were Bangladesh (17 cases) and the Democratic Republic of the Congo (11 cases)

### **Alarm at rise of polio cases in India**

The BBC news (25/10/06) reported that there had been 119 new cases in the past month in India. India's final total of 624 cases in 2006 represented a third of the cases in the world last year. The state of Uttar Pradesh accounted for well over half the Indian cases. Polio has been reported in the cities of Delhi and Mumbai where it had become very rare of recent years. A Mumbai headline read: *Calls flood doctors for polio info*. Officials said all cases found in Delhi and Mumbai could be linked to children who had come from the states of Uttar Pradesh or Bihar in the past few months. Poor sanitation in these states means that children may need more than the usual three doses of vaccine because they often have diarrhoea at the time of vaccination.

### **Immunoglobulin used to treat PPS.**

As Dr Marcia Falconer has explained in her recent seminar presentations to the Network, there is evidence that an inflammatory process may be the major cause of PPS. Thus anti-inflammatory medications should help relieve PPS symptoms and several recent research studies have shown this to be so. Dr H Gonzalez and others reported the results of a randomised controlled trial in the journal, *Lancet Neurology*, June 2006. In this research patients in four clinics were *randomly assigned infusion of either 90g in total of intravenous immunoglobulin or placebo during 3 consecutive days, repeated after 3 months*. There was some improvement in muscle strength in the treatment group as well as in activity levels and vitality. There was no significant change in pain experienced. The Summer 2006 issue of the *Post-Polio Health International Newsletter* (St. Louis) had an article by Drs Halstead and Silver evaluating and discussing the implications of this research (You can read it at [www.post-polio.org/ipn/pnnback.html](http://www.post-polio.org/ipn/pnnback.html)). A major disincentive is the cost of the treatment which they estimate would be at least \$US10,000 for the course of therapy. They say: *It is not*

*entirely clear who would benefit...Because the diagnosis of PPS is still imprecise, perhaps the only way to be certain if you would be a good candidate or not, is to have your cytokine [an indicator of inflammation] levels checked. This involves having a spinal tap [lumbar puncture] to obtain a sample of CSF [cerebrospinal fluid] and access to a lab that performs these tests on a regular basis. The length of time that the positive effects are sustained is obviously of great importance. On the Post-Polio-Med online mailing list a spokesperson for Post-Polio Health International said it had received the following response to this question from the research group: We have preliminary results from follow-up studies showing that the cytokine level in the cerebrospinal fluid is [still] significantly decreased one year after the treatment. There is a statistical improvement of quality of life 2 years after the treatment. For the individual, the effect may last from 6 weeks to several years. It will certainly be of great interest to follow the development of this research. Hopefully a less costly treatment will be found.*

### **Enticing nerve cells to paralysed muscles**

The Salk Institute for Biological Studies in California has issued a press news (15/6/06) in which Dr Samuel Pfaff, a leading researcher there, describes how his team has *'identified a molecule that guides a specific subgroup of neurons to connect to the muscles that line our spine and neck ...piece by piece, we are uncovering general principles that ensure that the developing nervous system establishes proper neuronal connections.'* *Understanding how axons find their destinations may help restore movement in people following spinal cord injury, or those with motor neuron diseases such as Lou Gehrig's disease [ALS or motor neurone disease], spinal muscle atrophy and post-polio syndrome.* There is a lot more research to be done before this research is applied to people but they are starting to treat mice.

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