India approves leprosy vaccine

Ganapati Mudur, *New Delhi*

A vaccine against leprosy has been approved by India's drug control agency and is to be incorporated into the national eradication programme. The vaccine is designed to be used as an adjunct to standard multidrug therapy to accelerate healing and reduce the duration and cost of the treatment.

The vaccine, developed at the National Institute of Immunology in New Delhi, is said to be the first in the world that stimulates the immune system to kill *Mycobacterium leprae*. The vaccine, administered intradermally, is prepared from a killed non-pathogenic strain of *Mycobacterium*, first isolated in the mid-1970s from the sputum of a patient with tuberculosis in Madras.

"Patients who receive the vaccine and standard anti-leprosy multidrug treatment show faster clinical improvement and more rapid clearance of bacteria than those who receive only drugs," said Dr Rama Mukherjee, a senior scientist at the institute. Whereas multidrug therapy using rifampicin and two other drugs takes 12-24 months, the vaccine will help to reduce duration of treatment by at least six months in the most severe cases, Dr Mukherjee said.

"We expect this vaccine to provide a big boost to the leprosy eradication programme," said Dr Manju Sharma, secretary of India's department of biotechnology, which invested about 20 million rupees (£300 000; \$480 000) in the project. Leprosy is prevalent across Asia, Africa, and Latin America, but India accounts for 60% of the global pool of patients with leprosy, estimated to be about one million in 1996. A fifth of patients are below the age of 18.

The vaccine is based on the concept of "cross reacting antigens," in which the killed *Mycobacterium* strain is used to stimulate the immune system into mounting an attack on *M leprae*. "This is possible because the two bacilli have cross reacting antigens," said Dr Mukherjee. The first commercial batch is expected to be released by June 1998 and will be sold in India at six rupees (10p) a dose.

Health ministry officials, however, have expressed reservations about the impact of the vaccine in the leprosy eradication programme. "We don't see any real advantage of using this adjunct. Patients who are on standard multidrug therapy are not expected to actually feel any benefit from the faster clearance

Indian patients with leprosy receiving therapy

of the bacteria brought about by the vaccine. Drug treatment alone does lead to complete elimination of bacteria, although the process may be slower," said a senior official.

Others argue that the vaccine has been known to cure the disease and clear bacteria within six months in some patients. "It will also help prevent reactivation of the disease in the most severe cases," said Gursaran Talwar, former director of the National Institute of Immunology. India is

nowhere near eradicating leprosy with the current treatments available. Last year the health ministry detected 400 000 new cases.

Institute scientists say that the immunoprophylactic role of the vaccine is also under investigation. Over the past eight years, nearly 23 000 healthy household contacts of patients with leprosy have received the vaccine, but the results of this study are not expected for another three years because of the long gestation period of the leprosy bacillus. □

Cardiac services to expand in Ireland

Doug Payne, *Dublin*

The Irish government has announced a radical overhaul and expansion of heart and lung surgery services. The scheme, to cost in excess of £Ir40m (£48m), will increase the capacity for cardiac surgery by more than 50%—which will give the country one of the highest cardiac operations ratios per capita in the world (about 1000 per million of population).

The announcement was made just days before details of a study of cardiac waiting lists at two major Dublin hospitals showed that not only had 79%

of patients been waiting for surgery for more than 6 months, but 39% had also been waiting for more than three years. There are currently 1650 patients on the national cardiac waiting list, in a country with a population of 3.5 million and which has one of Europe's highest rates of deaths related to heart disease.

One third of all premature deaths in patients aged under 65 in Ireland are due to heart disease, which is the second biggest cause of death in the country after cancer. Ireland's death rate for premature ischaemic heart disease is twice the European average.

Under the new initiative the cardiac centre at Dublin's Mater hospital—one of those whose waiting list was covered in the survey—will remain the main national cardiac centre of excel-

lence. There will be new facilities opened in Galway, as well as extended facilities for children's cardiac surgery at Dublin's Crumlin Hospital and for adults at Dublin's St James's Hospital and an expanded service at Cork University Hospital. This is expected to result in an extra 750 adult patients with heart disease being operated on each year and an additional 100 paediatric procedures annually.

There will also be a phasing in of a heart-lung transplant service at the Mater Hospital in association with St Vincent's hospital, Dublin, which will allow lung transplant operations to be carried out in Ireland for the first time. Currently, patients requiring heart-lung and lung transplants travel to the United Kingdom, and 30-40 patients are awaiting such operations at any given time.

Maurice Neligan, cardiac surgeon at the Mater Hospital, Dublin, said that the health minister's initiative was like "expecting a Toyota but getting a Rolls Royce." But, he cautioned, a major recruitment drive must begin without delay as he estimated that an additional 40-50 intensive care nurses and four or five heart and lung technicians would now need to be trained. Four new cardiac consultants are also expected to be appointed, bringing the total number in the country to 11. □

Correction

British government launches performance framework

The telephone number we printed for the NHS Response Line (31 January, p 332) was incorrect. It should have read 0541 555455.