Letters

Polio eradication — end-stage challenges

Editor – I wish to suggest an alternative to those strategies discussed by Sutter et al. for poliomyelitis "end-stage and post-eradication" (*1*). The suggestion is based on the successful eradication of poliomyelitis in Israel and the West Bank and Gaza Strip during the 1980s.

The "Gaza System" for polio eradication used a combined programme of live attenuated oral poliovirus vaccine (OPV) and inactivated poliovirus vaccine (IPV), recommended by Joseph Melnick and Natan Goldblum (*2*). The system was implemented with the full support of Palestinian public health officials, who participated in discussions on immunization policy.

The system was adopted to control the epidemics of poliomyelitis in the West Bank and Gaza Strip between 1976 and 1977, which occurred despite widespread and intensive use of OPV. Cases included children who had received up to four doses of OPV (*3*). The combined OPV/IPV programme almost immediately eliminated poliomyelitis from the West Bank and Gaza Strip.

Israel adopted the "Gaza System" after an outbreak of poliomyelitis in 1988 among 15 young adults (*4*). This outbreak revealed major shortcomings in the use of OPV and IPV independently: IPV-only populations were susceptible to and could transmit imported wild poliovirus (*3*), while OPV-only populations experienced declining immune levels (*5*).

This combined programme has been used by the Ministries of Health of Israel and the Palestinian Authority since 1988. Regular monitoring of sewage and of acute flaccid paralysis cases in the West Bank and Gaza Strip is carried out by the Palestinian Authority at the Israeli Ministry of Health Central Virus Laboratory. Despite periodic reports of wild poliovirus in sewage, no clinical cases have been discovered in the area since 1988.

In 1997, the US Centers for Disease Control and Prevention switched from OPV-only to a sequential OPV/IPV programme. Then in 2000, they implemented an IPV-only policy, possibly due to concerns of litigation over vaccine associated paralytic poliomyelitis (VAPP) cases. However, this provided a poor example to other countries, many of which cannot afford or implement an IPV-only policy.

I believe the "Gaza System" to be relevant to the planning of a future "end-stage" strategy. A single dose (or two doses) of IPV provides early stimulation of immunity levels while protecting against VAPP (*6*), and OPV acts as a booster providing reliable enteric immunity, is easy to use, and is relatively cheap.

The combined OPV/IPV strategy should be considered during the transition from control of poliomyelitis to its post-eradication prevention. ■

Conflicts of interest: none declared.

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