I am concerned about the smallpox vaccination. How safe would it be? Is there any way to treat smallpox that would avoid vaccination if there were to be a terrorist attack using this germ?

Here we are, 25 years after we thought smallpox had become extinct, worrying about it again. The problem lies in the fact that stocks of the virus called "variola major" were held in "safe" keeping in laboratories in the U.S.A. and Russia. Concern centers on whether supplies of the virus have fallen into the hands of terrorists. How real such a scenario is, we don't pretend to know. Nevertheless, a single case of smallpox would be far more dangerous and liable to spread than a case of anthrax.

The logistics of spreading the disease seem enormous, but willing "suicide" carriers could inoculate others they contacted. The disease causes severe morbidity, which might limit the ability of infected terrorists to interact with others, but epidemics were the norm in the days before immunization, and so epidemics could be expected in the populations, which are currently not immune.

Smallpox has a 30 percent morbidity rate. The U.S.A. population is largely not immune because the vaccination program stopped in 1971 and in 1990 for military personnel. There are 15.4 million doses of the old vaccine in stock. Vaccine production had stopped, so the call for vaccines for the entire population by 2003 will be likely of a virus cultured in human cell lines. The old method was to take lymph from cattle inoculated with the vaccinia virus and scratch some of it into the skin. The newer vaccines will not have had time for large-scale studies.

Smallpox vaccination is hazardous in those who are immuno-compromised, such as HIV-positive persons. People with skin disease such as eczema are also at increased risk of wide dissemination of the vaccine-produced pustules through the skin.

Rare but devastating is smallpox encephalopathy, which usually kills the unfortunate victim.

Though these complications are nasty, they are insignificant compared to the effects of a smallpox epidemic. For now, it's not wise to immunize the whole population, but should there be a terrorist attack, the best defense would be mass vaccination.

No dependable treatment exists. Those of us immunized years ago are probably quite susceptible and would need reimmunization. The U.S. government's expenditure of $428 million to produce a vaccine indicates a real concern on its part regarding the degree of risk. For now, all we can do is be alert and not get too anxious about matters we hope will not happen, and over which we have no control.