MEDICINE

Blood '53 Anti-Polio Hope

Outlook for this year is for polio protection from gamma globulin. Vaccines must be thoroughly tested before widespread use. Production plans for one have been made.

➤ HERE IS the 1953 polio protection story: For this summer and probably next, gamma globulin from blood or a "touch of polio" infection. Later, we can now hope, a safe and effective vaccine from monkey kidneys, fertile hen's eggs or some other source.

Large pools of blood, such as those donated by Americans to the National Blood Program, contain polio-fighting antibodies in their gamma globulin fraction. This is because many of the donors, knowing it or not, have had enough polio virus get into their bodies to cause build-up of the anti-polio substance.

Trials of the G.G. during the past two summers seem to show that it can protect children from the paralytic effect of poliomyelitis. The protection is not expected to be long-lasting. The supply is limited, enough for about one million doses. Booster shots might be needed.

Many children will still have to rely on getting just a "touch of polio" as one doctor put it. It may be enough to give the child one of those little feverish upsets children so often get. Or it may not cause enough trouble to be noticed. But these little infections apparently can also cause polio antibodies to be formed. With antibody formation comes resistance to the serious attacks of the crippling or sometimes killing polio infection.

Vaccines against polio, which everyone is talking about these days, are still in the class of dreams not yet realized. To be sure, vaccines have been made and given some preliminary testing. But the men who made them and who should know say the vaccines are still a long way from being ready for practical use.

At the University of Pittsburgh, Dr. Jonas Salk and associates have made a vaccine. (See SNL, April 4, p. 211.) Blood tests of the few score who got it showed that this vaccine gave immunity equal, in terms of antibodies, to that given by an outright attack of crippling polio. It did this without causing any sickness. A few got some red skin wheals, like a hive, where the "shot" was given.

But this vaccine has not yet come through the crucial test of showing what it will do to protect against polio during an epidemic. It is not yet even ready for such a test. The vaccine was made from virus grown on monkey kidneys and killed with formalin to make it safe.

Some authorities think that a killed virus never gives as lasting protection as a live one. The live one, of course, must be "modified" to remove its disease-causing power without stopping its power to cause protecting antibody development.

This actually has been done. Dr. Herald R. Cox and associates at Lederle Laboratories, Pearl River, N. Y., have succeeded in making the polio virus grow on fertile hen's eggs. (See SNL, Oct. 25, 1952, p. 259.) This, of course, solves the supply problem, because there are plenty of eggs. Tests have been made showing that the virus is truly modified, that is, it did not cause polio, it did cause protecting antibodies to form.

But so far, Dr. Cox and associates have only been able to get one strain of one type of polio virus to grow on the fertile hen's eggs. There are three types of polio virus. All three will grow on monkey kidney and all three are included in the vaccine developed by Dr. Salk.

Dr. Cox's egg vaccine has another advantage: It can be given by mouth. This is not just a help to the child who might prefer swallowing a pill to having a needle stuck in him. It is an advantage, Dr. Cox believes, because it will follow the natural way the polio virus enters the body, through the mouth and digestive tract.

The supply problem for the Salk vaccine can be solved. Harry J. Loynd, president of Parke, Davis and Company, Detroit, says his company "will be in a position to make it available at once" when it has passed field trials for safety and effectiveness. Arrangements have already been made to get monkeys from India for the purpose. And even and $45 to $50 apiece for the monkeys, Mr. Loynd does not think the vaccine cost will be prohibitive because of the good yield of virus for vaccine from the monkey kidney tissues.

Science News Letter, April 11, 1953

TECHNOLOGY

Magnesium Auto Bodies Pioneered in Britain

➤ LIGHTWEIGHT AUTO bodies fabricated of magnesium may be in the offing. A radically different, 132-pound prototype of one went on display at the First International Magnesium Exposition in Washington.

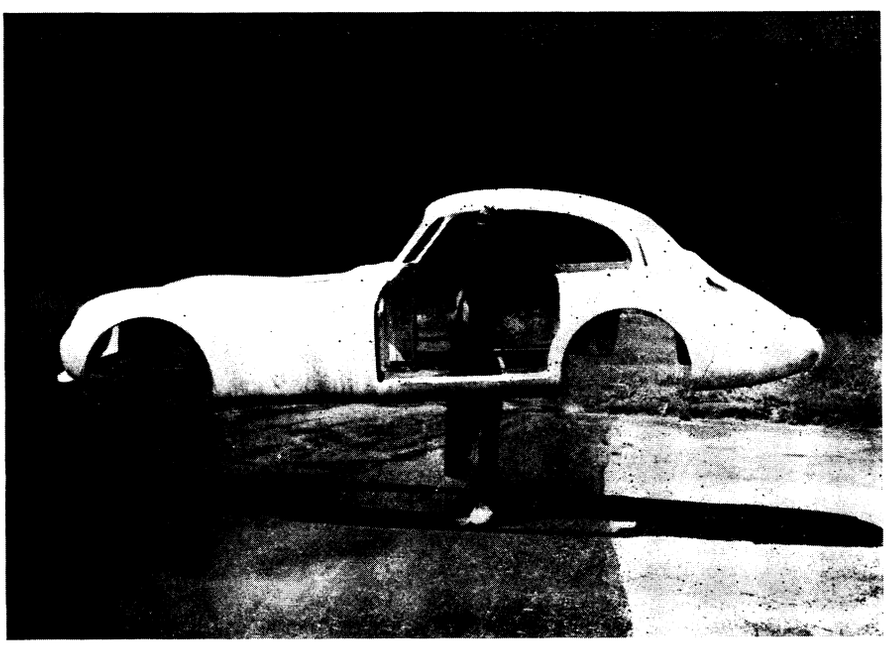
R. J. Cross, managing director of Essex Aero, Ltd., England, says the magnesium body is better than plastic ones. He bases his judgment upon 15 months of experimental work. The magnesium body might be cheaper than plastic bodies in mass production.

The model displayed was designed to fit an English-make car. It is attached to the chassis at only six points.

Other items on display included lightweight vacuum cleaners, porch furniture, ladders and skis.

Magnesium is expected to become more available since a method for extracting it from sea water is now being developed. Sufficient magnesium exists in the oceans to cover the entire surface of the earth to a depth of nine feet.

Science News Letter, April 11, 1953



ALL-MAGNESIUM AUTO BODY—Weighing only 132 pounds, this auto body made entirely of magnesium was developed in England. It is mounted to the chassis at only six points.