MEDICINE

Tissue Compatibility Test Applicable to Humans

➤ A NEW TEST to help solve the crucial problem of grafts by showing which graft the body is likely to accept and which it will reject has been developed by a Nobel Prize winner and his co-worker.

The problem of rejection is considered the major block to achieving the long-sought dream of transplanting body organs.

In the test, developed by Drs. L. Brent and Nobelist P. B. Medawar of the National Institute for Medical Research in London, lymphocytes, a type of white blood cells, are taken from the bloodstream of possible donors and injected under the skin of the recipient.

When the two are not compatible, inflammation results. The degree of inflammation, Drs. Brent and Medawar said, provides "an almost exact forecast" of the reaction that will take place after the actual graft.

Inflammation, they said, "is almost the simplest imaginable outward sign" that tissues are not reacting sympathetically to each other. Using the test, a physician would choose a transplant from the body whose blood cells caused the least inflammation.

The test, called N.L.T. (normal lymphocyte transfer), was developed on guinea pigs. However, it "should be applicable to humans," if extra safeguards are used, the scientists reported in the British Medical Journal, Aug. 3, 1963.

• Science News Letter, 84:141 Aug. 31, 1963

MEDICINE

Human Uses Seen in Multiple Sclerosis Study

➤ HUMAN APPLICATION of basic research to multiple sclerosis appears closer as a result of a scientist's hunch.

Dr. Seymour Levine of the department of pathology, St. Francis Hospital, Jersey City, N. J., told SCIENCE SERVICE that preliminary work in his laboratory has eliminated one step in producing allergic encephalomyelitis in research animals.

This could lead to quicker progress in studying multiple sclerosis, or MS, the paralyzing disease that affects thousands of young men and women in the prime of life.

The closest model so far to human MS is allergic encephalomyelitis (EAE), which has been produced in animals. Up to now, the only way to create the EAE model has been to inject a nervous tissue emulsified in complex adjuvants (medications given to enhance the effect of another medication).

"These adjuvants combine the emulsifier and killed TB bacilli to promote a cell environment favorable for sensitization," Dr. Levine said. "But in our laboratory we found that this adjuvant can be done away with. Especially when pertussis vaccine is injected into the animals before the nervous tissue is, the susceptibility of mice and rats to EAE is enhanced."

The scientist's hunch is that previously unknown action lies ahead, and he and his co-worker, Dr. Eugene J. Wenk, also of the pathology department of St. Francis Hospital, are pushing their research toward more hopeful results. Their preliminary report appears in Science, 141:529, 1963.

Although it is probable that EAE in animals is related to human post-infectious and postvaccinal encephalomyelitis, and there is possibility of a connection with multiple sclerosis, the researchers said there had never been evidence of a pathologic link related to the adjuvants customarily used in the experimental disease studies.

"Therefore, the elimination of the adjuvants may facilitate investigation of relationships among these human and experimental diseases."

The New Jersey work is supported by the National Multiple Sclerosis Society. Lederle Laboratories supplied the pertussis vaccine for use in the research.

• Science News Letter, 84:141 Aug. 31, 1963