

MEDICINE

Barrier to Virus Discovered; May Aid Paralysis Fight

Structure Between Nerves and Muscles Stops Passage Of Disease Virus in Mice; Young Animals Without It

A STRUCTURE between the nerves and muscles of the body which acts as a barrier to stop the passage of a disease causing virus was reported by Drs. Albert B. Sabin and Peter K. Olitsky, Rockefeller Institute for Medical Research, New York City, at the meeting in Boston of the American Association of Immunologists and the American Association of Pathologists and Bacteriologists.

Discovery of this barrier may shed light on resistance to infantile paralysis. The studies reported were made on mice, not men, and concerned another disease than infantile paralysis. Like infantile paralysis, however, this mouse disease is caused by a virus that attacks the brain and central nervous system.

The barrier that checks passage of the disease virus does not exist in young mice. When the virus gets into their muscles it easily reaches the nerves, travels along them to the brain, and causes disease and death. Older mice, however, have developed this protective barrier and seem to have another barrier

in the brain, so that even if the virus reaches the brain, its progress is blocked there and the rest of the nervous system is protected against it. In infantile paralysis, it has previously been reported, the lining membranes of the nose in some individuals seem to act as a barrier blocking the passage of the disease virus. What makes the nose lining an effective barrier in some persons and not in others is not yet known. Studies such as the Rockefeller scientists reported here on the mouse disease may in the future provide the explanation. In the mouse disease, the barrier is apparently built up in connection with the aging process. While more children than adults get infantile paralysis, it does not necessarily follow that development of the barrier to the passage of the infantile paralysis virus depends on age.

According to another infantile paralysis investigator, Dr. Lloyd Ayccock of Harvard Medical School, resistance to infantile paralysis depends on constitutional factors with which one is born.

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PHYSIOLOGY

Individual Muscle Fibers Repair Selves After Injury

HOW single fibers of muscle tissue heal themselves after injury was demonstrated by Prof. Carl Caskey Speidel of the University of Virginia, before the American Association of Anatomists meeting at Durham, N. C. Prof. Speidel has evolved a delicate technique whereby cellular details in the tail of a tadpole can be watched under a high power microscope—the tadpole being the while happily unconscious under anesthesia.

When the end of a muscle fiber is injured, as by an electric current or slight heat, it swells up and pulls back, immediately forming a hard, tough cap over itself. This cap persists for a time, but

then dissolves into the liquid-filled vacancy it leaves. Muscle cell nuclei migrate. Presently the normal cross-striped appearance of the fiber is restored, and all is normal once more. The same fiber, Prof. Speidel found, can thus recover several times from successive injuries.

Male animals can be made to perform the traditionally female function of producing milk, Dr. W. R. Lyons of the University of California showed at the same meeting. After injecting into young male rabbits heavy doses of two female sex gland extracts, or hormones, he was able to squeeze milk out of their nipples which in male animals ordinarily remain in an undeveloped condition.

A relic of the reptilian ancestry of mammals was described by Dr. G. W. D. Hammett of the U. S. Biological Survey. It consists in a stage in the development of the red blood cells of the opossum, at which these cells closely resemble those of reptiles. The opossum belongs to one of the most primitive, least evolved orders of the mammals. The same reptile-like stage has not been found in higher mammals, Dr. Hammett said.

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ICHTHYOLOGY

First Known Photograph of Swordfish Stabbing a Boat

A SWORDFISH stabbing a boat with its powerful "sword" is shown in a remarkable and unique photograph now in the possession of the Academy of Natural Sciences in Philadelphia. So far as known, this is the only photograph of the kind ever made.

The attack took place in the Atlantic Ocean 120 miles southeast of Martha's Vineyard, Mass., and is thus recorded by Captain Ira Abbott, of Yarmouth, N. S.,

**NEWS!**

When a fish scuttles a boat—that's news! This is an unusual photograph made of a swordfish in the very act of spearing a 14-foot boat.