

MEDICINE

New Chemical Stops Growth Of Pus-Forming Staphylococci

New Member of Sulfanilamide Family Is Effective Against Pneumonia; Also Good for Blood Poisoning

SUCCESS with a new chemical treatment of blood-poisoning due to the pus-forming staphylococci is announced by Drs. W. E. Herrell and A. E. Brown, of the Mayo Clinic. A five-day cure in one such case is reported, as well as laboratory tests showing that the new chemical completely stops the growth of such germs.

The new chemical is sulfamethylthiazol, a member of the famous sulfanilamide family of chemical remedies. It is closely related to sulfathiazole, the chemical remedy just announced to the medical world by a research team at the Squibb Institute for Medical Research at New Brunswick, N. J. (*See SNL*, Dec. 23.) The sulfamethylthiazol used by Drs. Herrell and Brown was furnished by the medical research division of the Winthrop Chemical Company.

Like sulfathiazole, the still newer sulfamethylthiazol is as effective as sulfapyridine in curing pneumonia, with the added advantages of being less toxic and of not causing the nausea and vomiting which have been distressing features of sulfapyridine treatment. The Mayo Clinic physicians report the "striking" recovery of a pneumonia patient within 48 hours under sulfamethylthiazol treatment, and the absence of gastro-intestinal irritation during five days of treatment, although she had vomited at the onset of her illness before any drug was given.

Sulfathiazole has been hailed not only for its success in curing pneumonia but for its promise of controlling a whole new group of diseases due to the staphylococci. These pus-forming germs cause ailments ranging from boils and food poisoning to a serious blood-poisoning which kills about 90% of its victims if they are over 40 years of age.

Sulfamethylthiazol in its first human trial cured a patient dangerously ill with staphylococcus blood infection following operation for chronic gallbladder disease. Within 24 hours after the first dose of the new remedy, the patient was much improved and her temperature had dropped from 104 degrees Fahrenheit to under

100 degrees. Within 48 hours her temperature was 99 degrees F. and within five days it was normal. She had no gastro-intestinal irritation and was able to take her meals regularly, although with sulfapyridine treatment, first tried, she became so sick that the medicine had to be discontinued.

Sulfamethylthiazol came out on top in test tube trials of the anti-staphylococcus power of this new chemical and of sulfathiazole, sulfapyridine and sulfanilamide, Drs. Herrell and Brown report. The drugs were added in equal concentrations to broth cultures each containing from 12 to 15 colonies of the germs in 0.1 c.c. of the mixture. At the end of the first seven hours, a control tube with no drugs had 21,360 colonies in the measured amount of broth. The tube with sulfanilamide contained 2,760 colonies, the sulfapyridine tube contained 2,820 colonies, the sulfathiazole tube had a count of 2,400 colonies, but the sulfamethylthiazol tube still contained only 15 colonies. In other words, the germs were completely unable to multiply in the presence of the newest chemical remedy.

Science News Letter, December 30, 1939

ANTHROPOLOGY

Fourth Pithecanthropus First Adult Male for Study

THE important discovery of a fourth skull of the world's ancient pre-human species, known to science as Pithecanthropus, or the Ape Man of Java, is announced to the Carnegie Institution of Washington by Dr. G. H. R. von Koenigswald.

Slain by a violent blow on the back of the head from a club or stone weapon, the ancient pre-human now found will provide science with first opportunity to study a grown male skull of this early Stone Age type. The other three Pithecanthropus skulls, all smaller, are now more positively identified as remains of two grown females and a young individual of uncertain age.

Portions of the fourth representative

of the species unearthed consist of the upper jaw nearly complete and lacking only two molar teeth, and part of the back of the cranium still bearing marks of the death blow.

Comparing Java's ancient pre-humans with remains of Peking Man which have been coming to light in China, Dr. von Koenigswald declares the two types closely related. They undoubtedly represent the most primitive man-like forms known, he concludes, and their differences were such as might be expected of two races of present day humankind.

Not agreed as to when these two most ancient types of Java and China lived, scientists have variously estimated their antiquity at 500,000 to 1,000,000 years, some regarding Java Man as the older.

Dr. von Koenigswald does not believe it possible to decide yet which of the two was more primitive. Pithecanthropus of Java appears more primitive in such points as the proportions in size of molar teeth and structure of back and temporal portions of the skull. But Peking Man also had his primitive features discernible to the specialist, such as strongly developed grinding teeth, more complicated tooth patterns, and the manner in which the forehead connected with eyebrow ridges.

Hailing Java as the world's most important center for study of prehuman forms, Dr. von Koenigswald points out that discoveries there also have revealed valuable evidence of later mankind of Stone Age eras.

Science News Letter, December 30, 1939

MEDICINE

Undulant Fever Antiserum Helped Three Out of Five

A NEW antiserum for undulant fever that quickly brought the temperature to normal in three out of five patients in its first clinical trials has been developed by Drs. I. Forest Huddleston and R. B. Pennell, of Michigan State College. (*Science*, Dec. 15.)

Undulant fever is a serious and long-drawn-out ailment characterized by frequent relapses after the patient has apparently recovered. It afflicts goats and cows. Humans usually get it from drinking unpasteurized milk of infected animals.

Guinea-pig trials of the new antiserum before it was given to the patients showed that, when given at least 10 minutes before a dose of undulant fever germs, very small amounts of it protected the animals.

Science News Letter, December 30, 1939