

SURGERY

False 'Senility' Cured

Symptoms of early senility caused by "water on the brain" can be removed by an operation which allows drainage of cerebrospinal fluid from brain ventricles.

► "WATER ON THE BRAIN" can cause some symptoms of senility.

Surgery restored a 62-year-old pediatrician to his practice in perfect health after he showed symptoms of early senility including forgetfulness, unsteady gait and bed-wetting.

Occult hydrocephalus, or hidden "water on the brain," which does not produce the enlarged head common in children with hydrocephalus, was found in this patient and in a number of others by a group of Harvard Medical School neurologists.

Operating at the Massachusetts General Hospital in Boston, the neurosurgeons created a passage for drainage of cerebrospinal fluid from brain ventricles to the right atrium of the heart by way of the jugular vein in the neck. The operation is called a "ventriculoatrial shunt."

In addition to the operation on the pediatrician, the group reported successful surgery on two intelligent women in their sixties who had shown symptoms of early senility.

They reported the three cases in the *New England Journal of Medicine* 273:117, 1965 as the most striking of all they have treated.

It is imperative, the researchers warned,

that the diagnosis be firmly established before surgery is undertaken because surgical shunting carries a small but definite risk of infection or blood poisoning.

The patients all had a "normal" cerebrospinal-fluid pressure. Senile symptoms occur without cause in many who are diagnosed incorrectly.

The importance of recognizing occult hydrocephalus "lies in the opportunity it affords of rescuing from oblivion at least a few of the middle-aged or elderly patients now labeled as having senile dementia or 'cerebral arteriosclerosis,'" the neurosurgeons said.

Further cases are being sought in the large group of patients with late-life dementia, the helpless mental condition that sends many to nursing homes or hospitals for the insane.

Dr. R. D. Adams, C. M. Fisher, S. Hakim, R. G. Ojemann and W. H. Sweet reported the findings. Dr. Hakim has now gone to Bogota, Colombia, as chief of the neurological service in the Military Hospital.

They advised thorough examination of every patient with severe loss of mental coordination before he is placed in a hopeless category.

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General Telephone and Electronics

4,700-MILE TELEPHONE CALL—A Hawaiian porpoise is "speaking" with one in Florida. The porpoise sounds are picked up by special underwater hydrophones supplied by General Telephone Company of Florida, then amplified and fed into conventional speakerphones for the trans-Pacific transmission.

CHEMISTRY

DNA, RNA Synthesized In Lab 'the Easy Way'

► THE BUILDING BLOCKS of the "stuff of life" have been synthesized again in a laboratory, but this time by means of an "astonishingly simple" method instead of a complex, multi-stage procedure.

The stuff of life is DNA, or deoxyribonucleic acid, together with its "co-worker," RNA, which is ribonucleic acid. The building blocks from which they are made are called nucleotides.

Dr. Cyril Ponnampereuma of the National Aeronautics and Space Administration's Ames Research Center in Mountain View, Calif. has synthesized the five nucleotides that make up DNA and RNA, using only a simple phosphate added to the ammonia, methane and water, which are believed to have been the principal ingredients in earth's atmosphere when life began millions of years ago.

By beginning with primitive conditions on earth, Dr. Ponnampereuma hoped to be able to approach the creation of life in the same way as it actually happened.

In earlier research, Ames scientists had created all but one of the ingredients needed to form DNA and RNA. From ammonia, methane and water they created adenine, guanine, and two kinds of sugar (ribose for RNA and deoxyribose for DNA). The ingredients in this "life recipe" were made to combine, and all that Dr. Ponnampereuma needed to do was to add a phosphate and some heat. Even the heat requirement was low, about 180 degrees Fahrenheit.

As Dr. Ponnampereuma and his assistants found out, any number of inorganic phosphates would fill the bill. The rest was easy.

DNA in any living organism serves as a "blueprint" of the entire organism, a double spiral chain of nucleotide blocks capable of "remembering" the specifications of a complete creature, thereby enabling reproduction. RNA comes in single spiral chains intertwined with the DNA strands, and acts as a "persuader," helping other organic molecules arrange themselves in the same pattern as itself.

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PUBLIC HEALTH

Nursing Shortage Critical Under War Conditions

► THE CRITICAL NEED for nurses during the Dominican Republic crisis has again pointed up the shortage of officers on active duty with the Army Nurse Corps.

Nurses from Army hospitals across the U.S. had to be reassigned when the crisis broke, said Col. Mildred I. Clark, Chief of the Army Nurse Corps.

"The Army Nurse Corps shares in the overall nationwide shortage of some 80,000 professional nurses," Colonel Clark said, "but the opportunities for patriotic service by nurses in a time of great need should be known and understood by every citizen."

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