

SURGERY

A-Beads Treat Palsy

► A NEW TECHNIQUE for the treatment of Parkinsonism, which includes shaking palsy, uses tiny radioactive beads implanted in the brain to destroy abnormal tissue. The success of the treatment suggests its possible use in dealing with certain brain tumors.

Drs. Paul Crandall, neurosurgeon, and Joseph L. Westover, radiologist, of the University of California, Los Angeles, Medical Center have developed the technique, which involves ceramic radioactive yttrium-90 beads. These are implanted in the area of the brain associated with tremors of Parkinsonism.

The very small brain segment associated with the tremor is precisely located by briefly placing electrodes in the suspected area and electrically stimulating the brain tissue until the tremors are reproduced.

The beads are implanted through a slender, hollow steel needle and held in place

by a loop on the end. Over a period of three days the powerful but short-range beta rays of the radioactive yttrium gradually destroy abnormal brain tissue within a tiny spherical zone about one-half inch in diameter. The beads are then removed. This procedure has produced marked improvement in more than 35 patients with Parkinsonism and other tremor disorders.

The advantage of the new procedure is the gradual destruction of the abnormal tissue. Other methods which employ electrocoagulation or injections of alcohol produce sudden lesions which sometimes cause the patient to go into a confused state or coma.

The UCLA investigators are now exploring the use of the powerful, localized radiation of the beads in treatment of brain tumors known as gliomas. Preliminary studies have been promising.

• Science News Letter, 81:388 June 23, 1962

MEDICINE

Hippocratic Oath Obsolete

► THE TIME-HONORED Hippocratic Oath and other doctors' codes of ethics are "curiously and sadly obsolete," three Harvard physicians charged. Overwhelming problems of thermonuclear war are analyzed in 31 pages of the *New England Journal of Medicine*.

The prevention of thermonuclear war is a new area of preventive medicine that physicians charged with responsibility for the lives of their patients and the health of their communities must explore, Drs. Victor W. Sidel, H. Jack Geiger and Bernard Lown of Harvard University pointed out, 266:1137, 1962.

"Neither the Hippocratic Oath, the published codes of ethics of the American Medical Association nor the personal morality on which every physician relies" provides an easy answer to the questions of mercy killings, mass abortions, selection of patients among the severely injured and other problems posed by nuclear attack, they said.

A helpful glossary of radiation terminology is given in another article by Dr. Saul Aronow of the Massachusetts General Hospital (p. 1145). Such terms as isotope, curie, half-life, roentgens, rads, rems, dose rate, fusion, yield, blast and absorption coefficient are defined by Dr. Aronow for the Special Studies Committee, Physicians for Social Responsibility. This organization originated in Boston several months ago.

The inability of the human mind to grasp the magnitude of figures used in scientific work is pointed out. Numbers above 1,000,000, whether they refer to dollars in a budget, to people in a community or cells in an organ can be readily grasped in ordinary life, Dr. Aronow said. In nuclear phenomena such numbers as 10 raised to the 100th power, a number larger than all the particles in the entire universe, are easily written but have little comprehensibility.

In military terms, Dr. Aronow said, a level of 100 rads (units of absorbed energy) is not a hazard since it is not immediately lethal. Yet by peacetime standards, 0.1 rad is considered a high dose for a radiation worker.

There are two extreme views, he said. Those who stress the long-term effects of low levels of radiation may rightly be criticized as worrying about dangers that are real but minor in the face of national security.

"On the other hand," he added, "those who are employed in civil defense and optimistically claim to be able to save X percent of the population should know that the military potential exists, even at present, to destroy completely civilization if not all human existence."

Psychiatric and social aspects of the defense-shelter program are discussed at some length by Drs. P. Herbert Leiderman and Jack H. Mendelson of the Harvard Medical School (p. 1149), but they sum up thus:

"It should be apparent that prevention of the need for a shelter program would be the best single approach to the social and psychiatric issues accompanying such a program.

"Assuming that the nuclear epidemic will continue and that a workable shelter program is physically and economically possible, the question arises of how it can function if the psychologic needs of the individual and the group are considered."

The evidence indicates that for an untrained, unselected urban population, a shelter would probably have value in permitting group activities.

It is a question, they pointed out, whether man, who has evolved from living deep in a Paleolithic cave to the city apartment or the garden home in the suburb, can successfully return to the cave.

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Do You Know?

South Africa has reported the largest uranium reserves of any producing country.

More than 6,000,000 acres now in cultivation on the Southern Great Plains should be returned to perennial grass to protect the soil against wind erosion.

Trench mouth, usually considered a disease affecting young men in the military service, has a similar prevalence among college students, both male and female.

To get one ton of copper about 300 tons of earth must be moved.

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