

BROOKHAVEN NATIONAL LABORATORY

MEMORANDUM

DATE: January 23, 1951

REPOSITORY Records Holding Area
 COLLECTION Protocols - Clinical
 BOX No. 4
 FOLDER Human Protocols 150-1503

TO: BNL Committee on Use of Radio-
 active Isotopes in Human Subjects
 FROM: James S. Robertson, M.D.
 SUBJECT: Project H-14: Use of A-41
 as a therapeutic agent in
 adults and children
 5cm 15

It is proposed that we use A-41 in certain therapeutic studies in humans with metastatic cancer. The radiation from this isotope consists principally of a 1.18 Mev beta ray and a 1.3 Mev gamma ray. Its radioactive half-time is 1.78 hours. The subjects who would receive this isotope would be hospitalized patients with very poor prognosis for survival, for whom no other treatment is promising, and who may be expected to receive some benefit from suitably localized radiation. The isotope would be given as a gas and injected into an affected body cavity, such as the pleural space. In addition, it is proposed to inject A-41 into the lateral ventricles of hydrocephalic infants with a poor prognosis. The treatment would be carried out prior to a choroidectomy to determine the effects of radiation on the formation of cerebrospinal fluid.

It is expected that the gas will be rather slowly absorbed from such spaces and eliminated from the body through the lungs¹. Therefore most of the radiation will be delivered within the cavity into which it is injected.

The doses to be administered will necessarily vary greatly with the patient's diagnosis, the site of injection, and other variables. It is expected that it will be desirable to achieve a local irradiation of 5000 r in malignant diseases. This will require specific activities of about 1.5 millicuries per cc of gas. The initial treatments will be carried out with smaller doses.

The studies on hydrocephalic children will be done in association with Dr. W. J. German and the neurosurgical service at Yale Medical School where the choroidectomy will be performed. Tissue sections will be obtained for our Division of Pathology.

Essential precautions such as the use of gas masks for the protection of personnel associated with these experiments or treatments will be established.

¹Jones, H.B. Studies on Gas Exchange; U.S. Air Force Memo Report MCREXD -696-114 (1948)

BEST COPY AVAILABLE

Approved:

JSR:ij
 cc (L) M. Fox

1176117

Medical Department

Lee E. Farr, M.D.

S. C. Madden, M.D.

W. M. Hale, M.D.

D. L. Jellinger, M.D.