tion. Zinc-69m was delivered as a sterile isotonic solution of zinc chloride containing a sizable quantity of ^{65}Zn (17.5% of the total radioactivity of the solution at the time of injection).

Three men with biopsy-proven prostatic adenocarcinomas, clinical Stage IV according to the Veterans Administration Cooperative Urological Research Group classification (*3*), were studied as well as three men with benign prostatic hypertrophy and disseminated lung cancer. A 330–450-μCi dose of ^{69m}Zn was injected by the intravenous route in the patients suffering from prostatic cancer while a 150-μCi dose was given by the same route to the patients with benign prostatic hypertrophy.

Several scintiphotos of the lower abdominal and pelvic regions were taken during the first hour after the isotope injection. The images were simultaneously recorded on a videotape system and examined after usual data processing. Rectilinear scintigrams were performed 1, 2, 3, and 20 hr after the injection.

Unfortunately none of the techniques used provided a distinct image of the enlarged prostatic gland. No clearly delineated prostatic outline could be seen on the scintillation camera pictures or on the color-dot and photoscintigrams. In one patient, however, with a very large prostatic malignant tumor, the scintillation camera pictures showed a small concentration of radiozinc in the prostatic area 20 min after the injection of the isotope. Nevertheless this image was less contrasted than the picture shown in Chisholm's paper. In each of the six patients, however, scintillation camera pictures disclosed a clearcut image of the liver as soon as 10 min after the radiozinc injection.

One of our patients with disseminated prostatic cancer survived for more than 1 year. Since he had received, due to the contamination of the ^{69m}Zn solution, about 50 μCi of ^{65}Zn, an isotope with a physical half-life of 245 days, it was possible to perform 1 year after the injection an investigation in a whole-body counter (WBC) fitted out with four detectors. Two profile scans were made simultaneously in the WBC, using two 4 $\times$ 4.75-in. crystals fitted out with a slit-collimator. A 176-keV wide window was centered on the ^{65}Zn peak (1.114 MeV). The first profile resulting from measurements along the body midline allowed scanning of the prostate, pancreas, and part of the liver while the second profile obtained from measurements along the right midclavicular line (at 15 cm from the midline) allowed scanning of the major part of the liver. As shown in Fig. 1, a rather high basal activity is recorded on both profiles, the maximum of the activity being located in the liver area (arrows). Nevertheless, Fig. 1A shows a small peak of activity in the prostatic area (double arrows). This suggests a rather slow turnover of radiozinc in the prostate. One year after the isotope injection, the absolute activity of the prostate compared with that of the surrounding organs remains too small to obtain a clear-cut image of the gland.

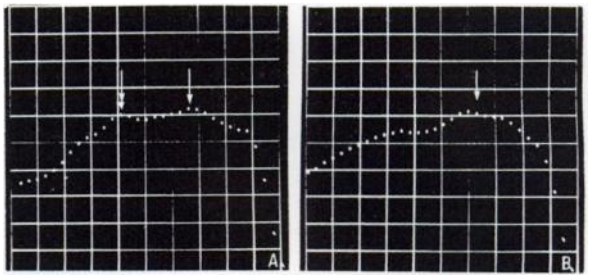

FIG. 1. Sagittal profile scans obtained in whole-body counter (WBC). (A) Profile recorded on midline with single arrow indicating hepatic area and double arrow indicating prostatic areas. (B) Profile recorded 15 cm to right of midline with arrow indicating hepatic area.

Finally, the results of Chisholm, et al as well as our data make us wonder whether the previously published in vivo prostatic scintigrams (*4*) were not obtained after surgical removal of the gland. We suggest that more specific markers, like those proposed by Szendröi, et al (*5*) should be tested for prostatic scintigraphy instead of further studies on other zinc radioisotopes even in other chemical forms.

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THE AUTHOR'S REPLY

Dr. Frühling's comments interested us since they confirm our view that prostate scanning with radioactive zinc chloride has no clinical value. The search for more specific markers by our group has been disappointing; we were unable to reproduce the results reported by Szendröi, et al (*5*). A report on our studies with radioactive iodine-labeled estrogens as prostate-scanning agents has been accepted for publication (*6*).

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