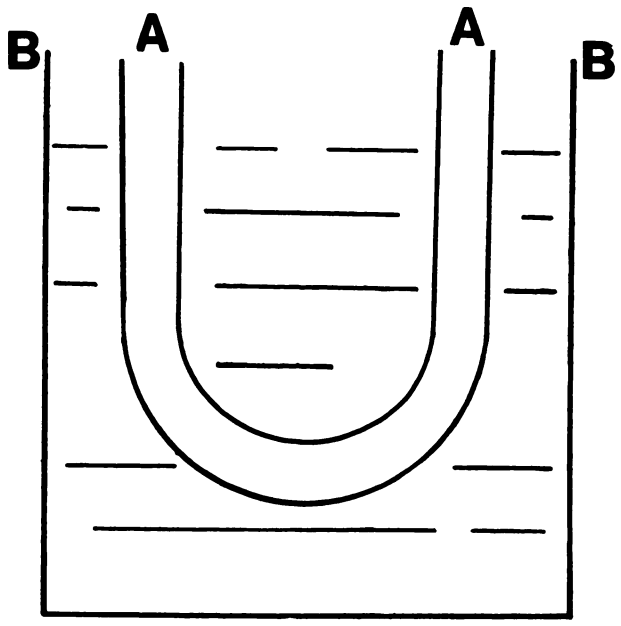

FIG. 1. Schematic apparatus for dialysis method. (B.B. = receptor vessel with normal saline. A.A. = loop of dialysis tubing for labeled sample.)

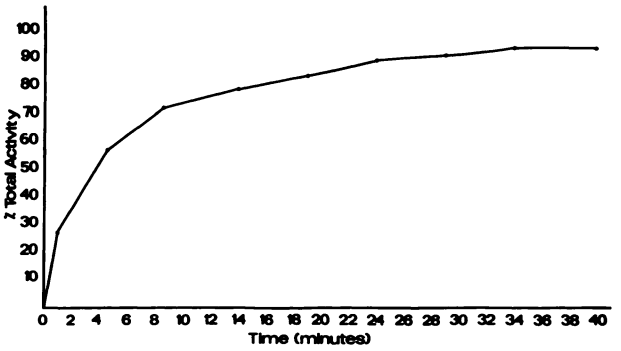

FIG. 2. Transfer of free $^{99m}TcO_4$ from 8-mm dialysis tubing into receptor solution.

free ions of ^{99m}Tc to pass through a dialysis membrane which prevents the passage of the labeled compound (sulphur colloid).

Technique. A sample of the labeled sulphur colloid is placed in a U-shaped loop of dialysis tubing (AA in Fig. 1). For convenience these free ends are clipped together by a hemostat. The loop is suspended in a vessel (BB) containing normal saline.

The whole system is now counted. We have used a commercial ion chamber with a disposable glass jar of suitable size as container.

After this count has been made, loop AA is removed, and the container BB is counted alone.

Assuming 100% labeling, the second count should be zero. Any count above background must be due to technetium migrating through the dialysis membrane.

If the technique is repeated, using free technetium in AA and withdrawing and replacing the tube at stated intervals, an equilibrium time can be determined.

Figure 2 shows values obtained using free technetium. It is apparent that over 90% of the technetium has migrated after 30 min.

Using representative samples of satisfactorily labeled sulphur colloid, less than 2% had migrated in this time.

This percentage is not a true percentage since calculation of this depends upon the relative volumes of dialyzed sample and receptor solution in BB. Nevertheless, if AA is of the order of 1 ml and BB is greater than 25 ml, the crude percentage transmission is sufficiently constant for clinical use.

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CHARLES L. LEWIS
ROLAND BRAMLET
Department of Radiology
Rochester General Hospital
Rochester, New York

ADDENDUM TO "REGIONAL CEREBRAL BLOOD FLOW ESTIMATION IN THE DIAGNOSIS OF CEREBROVASCULAR DISEASE"

Figure 5 of this article was reproduced by permission, DeLand, FH, "Scanning in Cerebral Vascular Disease," *Seminars in Nuclear Medicine* 1: 31–40, 1971.