femur and register it by the recorder.
Experiment:

1) ^{18}F is selectively taken up by the bone, but less by other organs.

2) The normal bone takes up ^{18}F rapidly for 10-15 minutes and thereafter comes to the saturation point.

3) The inflamed part of the bone takes up ^{18}F ten times the normal part, while the inflamed part of the inflamed femur has a significant difference from the normal part, ingesting about 20 minutes later than the latter.

4) In case of irradiating 1000r of Co-60 on the lower limbs, the inflamed part takes up more 7-8 times than the normal part, showing no difference in time from the latter.

The above-mentioned results reveal that ^{18}F is made available for the clinical diagnosis of the bone, on which we will announce many cases.

Cutaneous Osmosis of RI through Mixed Pharmaceuticals

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As Na less in organic affinity and related to organic osmosis seems to be a suitable element for such less-osmotic organ as the skin, we conducted researches on the degrees of cutaneous osmosis through various kinds of pharmaceuticals, with ^{24}Na as an indicator.

Experiments:: We fixed an experimental rabbit under Rabonal anesthetic, set up a cylinder of 2 cm. in diameter on the exterior of its auricle, dropping therein 0.2 cc of mixed solution of various pharmaceuticals with ^{24}Na, and laid a scintillation counter on its heart to measure the osmosis of ^{24}Na every 5 minutes for 30-70 minutes and at the same time register by the recorder.

The chemical symbol of ^{24}Na is NaCl (0.1NHC1)

A. As the basic research to mix various kinds of pharmaceuticals, comparison was made.
   1) between that which was locally cleansed with alcohol and that which was not.
   2) between the skin and the glossal mucosa of that which was locally cleansed with alcohol and that which was not, respectively.

B. At the time of using pharmaceuticals (mixed after local cleansing with alcohol,
   1) Osmosis was observed by changing the concentrations of NaCl to 170, 5% and 40% respectively.
   2) Hyaluronidase preparations, a diffusing factor, were used in solution (100 units/0.2 cc)
   3) Non-ionic surface activator (ABS) was used with concentrations changed to 0.015%, 0.15% and 15% respectively.

Results:

A. In case of cleansing with alcohol, the osmosis of ^{24}Na was larger than in case of not cleansing with alcohol. And, the glossal mucose was higher about 10 times in osmosis than the skin.

B. 1) The higher the concentration of NaCl in ^{24}Na solution was, the larger the osmosis was..
   2) In the mixed solution with Hyaluronidase preparations, the increased osmosis was evidently observed.
   3) In ABS, clear osmosis was not observed at a lower concentration (0.015%), while it was observable at a higher concentration.

The factfindings are presumed to be connected with clinics in the future, but which region of the skin osmosis begins with will be studied by means of autograph, etc.