

ophageal carcinomas showed positive results.

In 20 cases of 24 esophageal carcinomas treated by telecobalt therapy,  $^{32}\text{P}$  uptake showed more smaller value than the normal tissue level. It was noted that  $^{32}\text{P}$  uptake of normal tissue around the lesion showed lesser  $^{32}\text{P}$  uptake.

In one recurrent case of esophageal carcinoma treated by telecobalt,  $^{32}\text{P}$  uptake showed positive result 5 years later. Another case of esophageal carcinoma treated by telecobalt showed suspicious finding of recurrence

on roentgenogram,  $^{32}\text{P}$  uptake showed negative result 4 years later, however. It should be emphasized that a case of post-irradiated recurrent carcinoma could be distinguished by the degree of  $^{32}\text{P}$  uptake from cicatricial narrowing.

In 3 cases of 4 patients with reflux esophagitis complained heart burn,  $^{32}\text{P}$  uptake showed increase up to about 50%. In 3 cases with radiation esophagitis following telecobalt therapy of lung carcinoma and breast carcinoma,  $^{32}\text{P}$  uptake decreased to 40–80%.

### Studies on the Diagnostic Test of Breast Tumor with $^{32}\text{P}$

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As a diagnostic methods of breast tumor the uptake of the administrated  $^{32}\text{P}$  with G-M tube from surface of the skin has several limitation.

We were performed to clarify the transitional variation of surface counting and geometrical differences between nipple area and other quarters.

The outline of our studies were as follows.

1) In the normal breast  $^{32}\text{P}$  is taken up in the nipple areas much more than in other quarters and in quarters almost the same uptake of  $^{32}\text{P}$  was noted.

These tendency is as higher as than young married women under 30 years.

2) Uptake of over fifty ages, especially

in male, is lower than in women and other young persons.

3) When comparison with tumor tissues and other breast diseases—Fibroadenoma, abscess and gynecomastia—in over fifty age, the uptake of nipple areas is higher than in others remarkably.

The above results suggest these conclusion: the hyperactivity in the nipple area following  $^{32}\text{P}$  injection may be related not only activation of tumor tissue but also vascular retardation and stasis. Because of the variation being found in the  $^{32}\text{P}$  uptake of the nipple area, measurement of breast tumors of nipple area must be carefully performed.