ISOTOPE INVESTIGATIONS IN DOGS AND RABBITS

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Intralymphatic injection of radioactive isotopes may become an important adjunct in the treatment of tumours that seem to spread initially via the lymphatics (e.g. Malignant Melanoma).

In an effort to assess the competency of regional lymph nodes in trapping colloidal radioactive material, lymphatic channels in the lower limbs of dogs and rabbits were cannulated, then infused with radio-opaque Lipiodol and approximately 0.5 millicuries of radioactive colloidal gold (Au^{198}). X-rays were then taken to visualize the lymph channels and nodes involved.

To assess the lymphatic efflux of colloidal gold from the regional nodes, two thoracic duct fistulae and one fistula of the lumbar lymphatic trunk were performed in separate dogs, and lymph specimens were collected continuously for 16 to 24 hours at half-hour and hourly intervals.

Definite conclusions must await investigation of a larger number of animals. It appears, however, that a large concentration of the colloidal gold was taken up by the regional nodes, suggesting an effective means by which small tumour deposits can be attacked. The fistulae did not fully protect any of the dogs from whole body contamination. Tissue analyses revealed that substantial amounts of colloidal gold had gained access to viscera other than lymph nodes. Tissue analyses of the rabbit viscera also demonstrated the escape of gold from the lymphatic system.

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