THYROID

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The Thyroid and Radiation Emergency

The explosions of nuclear weapons or accidents at nuclear power station affect the thyroid, and radiation-induced thyroid diseases are due to exposure to external radiation at the time of explosion or from the radioactive fallout and to exposure to internal radiation from radioactive iodine that accumulates within the thyroid glands.

Reports on Radiation-induced Thyroid Diseases

Atomic Bomb

Thyroid cancer, thyroid adenoma and hypothyroidism increased by external radiation at the explosion of atomic bomb in a dose dependent manner.

A significant increase in the prevalence of thyroid nodule was found in the radioactive fallout areas. Radiation dose, however, is not known

Radiation at the Neck

Children received radiation at the neck for treatment of enlarged thymus, tinea capitis, hemangiams showed a significantly higher prevalence of thyroid cancer than controls. Mean dose was from 0.06 to 1 4 Gy

Marshall Islands

Nuclear weapon test at Bikini island distributes radioactive fallout to surrounding islands and fisherman's boats Prevalence of thyroid atrophy, thyroid cancer and thyroid nodules was significantly higher in children living surrounding islands than controls

Total thyroid intake of radioactivity from iodine and tellurium isotopes are shown in Table 1.