

عنوان مقاله:

Chromosomal Rearrangements of RET/PTC in Post-Chernobyl Thyroid Cancer

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خلاصه مقاله:

A hypothesis is proposed here that RET rearrangements in papillary thyroid cancers are related to the disease duration and tumor progression. The most common RET rearrangements are RET/PTC1 and RET/PTC3. RET/PTC1 is more prevalent in classic papillary thyroid carcinoma (PTC), its diffuse sclerosing variant, and papillary microcarcinoma; while RET/PTC3 is frequently found in less differentiated solid PTC. RET/PTC3 is associated with larger tumor size and multifocality in sporadic pediatric PTC. The RET rearrangements; especially RET/PTC3, which is frequently detected among Chernobyl thyroid cancers is developed after exposure to radiation at an early age, is proposed to be a potential trigger of malignancy. There are many late-stage tumors among the first-wave Chernobyl PTCs that tend to be larger and less differentiated than those detected later. The high proportion of late-stage cases shortly after the accident is explained by the neglected cases in the screening process and also by the fact that some non-exposed patients were registered as radiation-exposed. The screening was productive because of the reservoir of undiagnosed cases in the population: registered incidence of thyroid cancer (TC) among children and adolescents prior to the Chernobyl disaster was low in the Soviet Union; compared to other developed countries. In conclusion, RET rearrangements, especially RET/PTC3, were correlated with the tumor progression. If the hypothesis defended here is correct, a low prevalence of RET/PTC3 among sporadic TC is circumstantial evidence of efficient cancer .diagnosis and early detection

کلمات کلیدی:

Radiation, Ionizing Chernobyl Nuclear Accident, Thyroid Neoplasms

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