CAROTID ARTERY DISEASE AFTER NECK IRRADIATION IN CHILDHOOD

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Background: Some studies have shown carotid artery disease in pediatric cancer survivors treated with neck irradiation (RT), although with contradictory results. We compared parameters of carotid artery disease in patients (pts) treated of Hodgkin disease (HD) in childhood with neck RT and cardiovascular risk factors matched controls. Patients and methods: Twenty four who were treated of HD under the age of 16 (8 females, 16 males) were included. They received neck RT with 20 to 42 (med. 30) Gy, 19 pts had chemotherapy. Aloka alfa 7 was used to determine plaque and intima media thickness in common carotid arteries Carotid artery stiffness was measured by new high-resolution echo tracking using colour-coded duplex sonography. The following carotid stiffness indexes were calculated: local pulse wave velocity (PWVb m/s), strain pressure elasticity index (Ep) (kPa), beta index and augmentation index (Aix, %). Results: Values of local carotid stiffness indexes were significant higher: beta stiffness (p=0.03), PWVb (p=0.,021), Ep (p=0.005), Aix (p0,000) and there were significant more arterial wall calcinations in the group of survivors (p0.000). The intima-media thickness (p=0.285). and the number of plaques (p=0.55) were not different in the two groups neither was in either group any significant carotid stenosis. Conclusions: Our results revealed that mild atherosclerotic changes of carotid arteries are more prevalent in long-term survivors of Hodgkin disease in childhood after neck RT. Follow-up is needed to prevent stroke, associated with advanced carotid disease.