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Brain and neck tumors among physicians performing interventional procedures.

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Abstract

Physicians performing interventional procedures are chronically exposed to ionizing radiation, which is known to pose increased cancer risks. We recently reported 9 cases of brain cancer in interventional cardiologists. Subsequently, we received 22 additional cases from around the world, comprising an expanded 31 case cohort. Data were transmitted to us during the past few months. For all cases, where possible, we endeavored to obtain the baseline data, including age, gender, tumor type, and side involved, specialty (cardiologist vs radiologist), and number of years in practice. These data were obtained from the medical records, interviews with patients, when possible, or with family members and/or colleagues. The present report documented brain and neck tumors occurring in 31 physicians: 23 interventional cardiologists, 2 electrophysiologists, and 6 interventional radiologists. All physicians had worked for prolonged periods (latency period 12 to 32 years, mean 23.5 ± 5.9) in active interventional practice with exposure to ionizing radiation in the catheterization laboratory. The tumors included 17 cases (55%) of glioblastoma multiforme (GBM), 2 astrocytomas (7%), and 5 meningiomas (16%). In 26 of 31 cases, data were available regarding the side of the brain involved. The malignancy was left sided in 22 (85%), midline in 1, and right sided in 3 operators. In conclusion, these results raise additional concerns regarding brain cancer developing in physicians performing interventional procedures. Given that the brain is relatively unprotected and the left side of the head is known to be more exposed to radiation than the right, these findings of disproportionate reports of left-sided tumors suggest the possibility of a causal relation to occupational radiation exposure.

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