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Cancer risk in individuals with intellectual disability

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Background

A large knowledge gap exists about the risk of cancer in individuals with intellectual disability (ID).

Methods

We conducted a population-based cohort study of more than 3.5 million Swedish children born to mothers from the Nordic countries, including 27,956 (0.8%) clinically ascertained cases of ID, born from 1974 to 2013, to investigate the association between ID and risk of cancer. Incident cancers were identified from the Swedish Cancer Register. We used Cox regression models to calculate hazard ratios (HRs) and 95% confidence intervals (CIs) of cancer in relation to ID while performing detailed adjustment for potential confounding. We analyzed by ID severity and ID type (idiopathic or syndromic) separately. To evaluate potential familial confounding, we further performed a sibling-comparison.

Results

We found a statistically significantly increased risk for any cancer (HR 1.57; 95% CI 1.35-1.82), as well as for several cancer types, including cancers in esophagus (HR 28.4, 95% CI 6.2-130.6), stomach (HR 6.1, 95% CI 1.5-24.9), small intestine (HR 12.0, 95% CI 2.9-50.1), colon (HR 2.0, 95% CI 1.0-4.1), pancreas (HR 6.0, 95% CI 1.5-24.8), uterus (HR 11.7, 95% CI 1.5-90.7), kidney (HR 4.4, 95% CI 2.0-9.8), central nervous system (HR 2.7, 95% CI 2.0-3.7), and other or unspecified sites (HR 4.8, 95% CI 1.8-12.9), as well as acute lymphoid leukemia (HR 2.4, 95% CI 1.3-4.4) and acute myeloid leukemia (HR 3.0, 95% CI 1.4-6.4). The risk increase was not modified by ID severity or sex but was higher for syndromic ID. Results from sibling-comparison spoke against familial confounding.

Conclusions

Individuals with ID show an increased risk for developing cancer. The association could not be explained by shared genetics or familial confounders between ID and cancer.

Legal entity responsible for the study

F. Fang and S. Sandin.

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Disclosure

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