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Solid organ transplant after treatment for childhood cancer: A report from the Childhood Cancer Survivor Study.

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Abstract Text:

Background: Childhood cancer therapy is associated with late onset, organ-specific impairment. However, the prevalence of and outcomes after solid organ transplant (SOT) in childhood cancer survivors (CCS) are unknown. **Methods:** Data on U.S.-based participants in the Childhood Cancer Survivor Study were linked with the Organ Procurement and Transplantation Network. Cumulative incidence of transplant (CIT) 35 years after cancer diagnosis, multivariable Cox regression models for hazard ratios (HR), Kaplan-Meier (KM) survival and corresponding 95% confidence intervals (CI) were estimated. **Results:** Among 13,318 survivors, median follow-up age 39 years (interquartile range, IQR 33-46), and median time since cancer diagnosis 31 years (IQR 28-36 years), 100 CCS had SOT after study entry with characteristics and outcomes provided (table).

	Kidney	Heart	Liver	Lung
Number of SOT	50 [†]	37	9	7
Wait List Only	21	25	15	6
CIT (95% CI)	0.39% (0.27-0.51)	0.30% (0.20-0.40)	0.07% (0.02-0.12)	0.05% (0.01-0.08)
Wait List or SOT	0.54% (0.40-0.67)	0.49% (0.36-0.62)	0.19% (0.10-0.27)	0.10% (0.04-0.16)
Median (IQR) Age in years at Cancer Diagnosis	2 (< 1-9)	6 (3-11)	6 (4-9)	12 (< 1-16)
Median (IQR) Age in years at SOT	25 (20-35)	28 (21-32)	37 (25-38)	30 (27-37)

Risk Factors for SOT or Wait List (HR, 95% CI)*	Nephrectomy (4.1, 2.2-7.6) Ifosfamide (22.7, 6.8-75.5) Total Body Irradiation (7.0, 2.3-21.3) Kidney Radiation > 10-20 Gy (2.3, 1.1-4.7) > 20 Gy (4.6, 1.1-19.5)	Anthracyclines > 0-150 mg/m ² (8.4, 2.2-32.6) 151-300 mg/m ² (5.0, 1.3-19.5), 301-450 mg/m ² (26.5, 9.9-71.0) > 450 mg/m ² (94.2, 35.3-251.2) Heart Radiation > 20-30 Gy (6.1, 1.8-20.6) > 30 Gy (19.7, 7.1-54.2)	Actinomycin (3.8, 1.3-11.3) Methotrexate (IV/IM) (3.3, 1.0-10.2)	Carmustine (12.3, 3.1-48.9) Lung Radiation > 10 Gy (15.6, 2.6-92.7)
Five-Year Survival after SOT (95% CI)	93.5% (81.0-97.9)	80.6% (63.6-90.3)	27.8% (4.4-59.1)	34.3% (4.8-68.6)

†3 patients had different prior SOT, *only HR with p < 0.05 shown. **Conclusions:** Organ-specific radiation and chemotherapy exposure increase the risk for SOT after childhood cancer. Five-year survival rates after renal and cardiac SOT are favorable.

Title:
Solid organ transplant after treatment for childhood cancer: A report from the Childhood Cancer Survivor Study.

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No

Is this abstract a clinical trial?
No

Would like to be considered for a Merit Award:
No

Have the data in this abstract been presented at another major medical meeting?
No

Has this research been submitted for publication in a medical journal?
No

Type of Research:
Cohort Study

Research Category:
Clinical

Continued Trial Accrual:
No

Received Grant funding:
No

Relevant to geriatric oncology:
No

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