ADOLESCENT OBESITY AND ADULT MALE BREAST CANCER IN A COHORT OF 1,382,093 MEN

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Statement of the Problem: Male breast cancer (MBC) accounts for 1% of all breast cancer. Adult obesity and tallness are risk factors for MBC, but the role of adolescent fatness is largely unknown. We aimed to assess the association between body mass index (BMI) in adolescence and the incidence of MBC in a large cohort of 16-19 year-old Israeli males.

Methodology & Theoretical Orientation: 1,382,093 Jewish Israeli males aged 16-19 who underwent anthropometric measurements, a general intelligence test (GIT) and other examinations during 1967-2011, were followed up to 31.12.2012 for MBC incidence. Cox proportional hazards models assessed the association between adolescent BMI (as WHO BMI categories and as age-specific CDC percentiles) and time to MBC diagnosis, adjusting for sociodemographic covariates.

Findings: Of 100 MBC (Male Breast Cancer) cases diagnosed during 29,386,233 person-years of follow-up, 97 were included in multivariable analyses. Compared to 'healthy' BMI (18.5-24.9kg/m2) and adjusted for year of birth, country of origin and GIT score, higher adolescent BMI was associated with higher MBC risk: hazard ratio (HR) =2.01 (95% confidence interval (CI) 1.14-3.55, p=0.015) in overweight (25.0≤BMI<30.0kg/m2) adolescents; and HR=4.97 (95%CI 2.14-11.53, p=0.0002) in obese (BMI≥30.0kg/m2) adolescents. When CDC age-specific BMI percentiles were assessed results were similar and statistically significant for obesity. Additionally, low (vs. high) GIT score (HR=4.76, 95%CI 1.96-12.50, p=0.001) and European (vs. west-Asian) origin (HR=1.99, 95%CI 1.19-3.34, p=0.009) were independent predictors of MBC.

Conclusion & Significance: Measured adolescent overweight and obesity are associated with increased risk of MBC, suggesting a modifiable risk factor potentially allowing for early intervention. The novel association with cognitive function should be further explored.
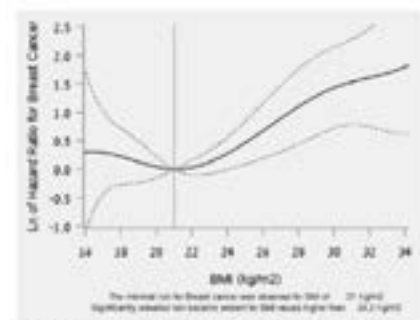
Figure 2. Spline model for the hazard ratio of male breast cancer by BMI (kg/m²).

Biography

Lital Keinan Boker, MD, PhD, MPH, has her expertise in cancer epidemiology, particularly breast cancer. She is involved in etiological research, as well as early detection and log-term outcomes of cancer survivors. In addition to that, she is also involved in the research of long-term physical health outcomes in Holocaust survivors, and now starts studying also the second generation of Holocaust survivors. Her research work is done within her capacity as both the Deputy Director of the Israel Center for Disease Control in the Israel Ministry of Health, and her position as an Associate Professor in the School of Public Health in the University of Haifa.

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