Editorial

Surveillance after pediatric thymoma resection

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While thymomas represent only a small portion of intrathoracic and mediastinal neoplasms, thymomas in the pediatric population are even rarer. A 2014 review of three decades of literature noted only fifty reported cases at the time (1). Guidelines for diagnosis, treatment, and follow-up are thus extrapolated from the adult population; even in this age group, there is a lack of strong evidence. Sigurdson et al. recently discussed a case presentation and recommendations from an ITMIG multidisciplinary team for an 11-year-old female patient (2). Following a total R0 of the B2 thymoma, no adjuvant therapy was recommended and surveillance was concurrent with the National Comprehensive Cancer Network (NCCN) guidelines; the patient was recommended to get thoracic imaging every 6 months for 2 years, then annually for 10 years.

The recommendations from the NCCN regarding post-treatment surveillance may be inadequate for pediatric patients, however. Pediatric patients may benefit not only from prolonged surveillance for thymoma recurrence, but a more aggressive screening for second malignancies. One review of the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) data noted that the cumulative risk for second cancers was elevated even among survivors 10 and 15 years after diagnosis (3). Therefore, while the adult thymoma population's remaining life expectancy may be limited by non-malignant comorbidities, one could infer that pediatric patients' cumulative risk of second malignancy is greater, given longer expected non-cancer life expectancy.

It is difficult to discern whether patients are at risk for specific second malignancies. One Italian retrospective review of 302 patients who had undergone a surgery for thymoma noted 50 extrathymic second tumors after a median follow-up of only 64.5 months (4). The most common malignancies were similar to the general population, including colon cancer, female breast cancer, and lung cancer. Furthermore on univariate analysis, age was not associated with a HR difference (95% CI, 0.98–1.02). On the other hand, using SEER data, Engels et al. reviewed 733 thymoma patients in the United States, and noted a more narrow scope of risk increase, specifically with non-Hodgkin's lymphoma (5).

Nevertheless, given the optimistic prognosis of this pathology, patients like the one in the case should have many potential quality years of life remaining. This leaves her at risk for a second malignancy for a longer period of time. Not surprisingly, patients who have a diagnosis of a second malignancy demonstrate significantly poorer survival outcomes (6). In pediatric patients who have had thymoma, therefore, it would be prudent to err on the side of more aggressive cancer screening. Young patient will likely encounter many physicians and other health care providers throughout the remainder of their life, and it will be important to emphasize the importance of screening through transitions of care. This could be reinforced by incorporating this recommendation into the treatment guidelines.

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