

Surveillance Strategies for Sarcoma: Results of a Survey of Members of the Musculoskeletal Tumor Society

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Background:

Surveillance is an important component of oncology. Despite the recognized significance, there is a paucity of evidence to guide the intensity of surveillance strategies. Prior investigations support the notion that current follow-up strategies vary widely, are controversial and ill-defined, and lack evidence-based guidance. Furthermore, the matters of cost and excessive radiation exposure are public health issues gaining national attention.

The purpose of this study was to determine the current sarcoma surveillance strategies of members of the Musculoskeletal Tumor Society (MSTS) and the rationale behind them. Greater understanding of the current practice should facilitate future studies to generate the evidence-based surveillance protocols currently lacking.

Materials & Methods:

Permission was granted by the Research and Executive Committee of the MSTS to survey members on their surveillance strategies. All members of the MSTS with a known email address were asked to participate in the survey through the MSTS email list.

The survey consisted of three parts. The first portion of the questionnaire requested demographic and clinical practice information. Additional questions focused on the rationale for the clinician's surveillance protocol and gauged perception of current surveillance guidelines. Questions regarding clinician and/or patient concerns for radiation exposure were also included in this section. The second part of the survey focused on soft tissue sarcomas (STS). Charts were provided to outline the clinician's specific surveillance protocol for STS. The third part of the survey was similar to the second but the focus was on bone sarcomas rather than STS. Clinicians were asked to complete this portion of the survey if their surveillance strategy differed for bone and soft tissue sarcomas.

Results:

20 percent (38 of 193) of MSTS members completed the survey. The most important rationale for the specific protocol utilized was a continuation of the protocol used during training. The second most important was recommendations from published guidelines followed by personal interpretation of available literature. 95% of respondents believe additional studies regarding appropriate surveillance protocols are needed and would be willing to enroll their patients into such trials. 33 respondents (87%) reported that their patients expressed concern regarding radiation exposure from surveillance imaging. Greater than half of responding physicians (56%) have changed their surveillance protocol in response to these concerns.

In the soft tissue sarcoma section, responders were surveyed regarding their perceived risk factors for relapse. For local recurrence, the three factors most commonly selected were surgical margin, histologic grade, and tumor size. Histologic grade was overwhelmingly chosen as the factor that most significantly increases the risk of metastases, followed by tumor size and histologic type. Surgical margin had a mean ranking of 5.34 (out of the eight factors) regarding significance for risk of metastases. Bone sarcoma surveillance was generally similar to the soft tissue sarcoma protocols utilized by the responders of the survey. The actual surveillance protocols utilized by the respondents demonstrated wide variation during the course of follow-up.

Discussion:

Surveillance is an important component of patient care after completion of definitive treatment. 95% of those surveyed believe these strategies need to be evidence-based. The results of this survey demonstrate that current surveillance strategies utilized by members of the MSTs are not guided by high-quality evidence, with most continuing the protocol taught during fellowship training. NCCN guidelines (most commonly utilized by responders of this survey) allow for tremendous variation in frequency and modality of chest imaging for sarcoma surveillance, a finding reflected in the results of this study. This variation has important implications regarding not only cost but radiation exposure for the patient. This survey confirmed that the public health issue of excessive radiation exposure is something patients are aware of, with 87% of respondents reporting having patients express concern. Significant utilization of chest CT for pulmonary surveillance, especially during the first two years after treatment, was found. There is interest among respondents in pursuing evidence-based guidelines and a willingness to enroll patients in such a trial.

This study confirms that the wide variation in surveillance practice demonstrated in prior studies also exists among members of the MSTs. High-quality evidence for guidance is currently absent but the need for it is recognized and warranted. Combined, these factors provide sound rationale for a multi-institutional study on appropriate sarcoma surveillance.