Musculoskeletal Tumor Society Member Survey: Intraoperative Peripheral Margins in Soft Tissue Sarcoma

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INTRODUCTION:

There are several recommendations regarding intraoperative peripheral margin sampling in soft tissue sarcomas, but it is unclear what is considered standard of care or what is routinely practiced. In the setting of bone sarcomas, the utility of the marrow margin frozen assessment has been scrutinized with little impact on intraoperative decision making, with an increased cost and time (Anderson). Contrary to this, in breast conserving surgery intraoperative margin assessment potentially avoids a subsequent re-excision in 25% of patients (Cabioglu).

While several recommendations exist, including: “6-8 perpendicular sections from all margins < 2cm” (Byerly), 2 samples from the closest margin and 1-2 sections from all other margins (Kandal), and 6 or more specimens taken from margins <2cm (Cates), there is not a definitive standard of care. The utility of intraoperative margin sampling has yet to be established, and it is unknown how members of the Musculoskeletal Tumor Society (MSTS) implement these varied recommendations.

Question:

A: What are the practice patterns of intraoperative peripheral margin sampling amongst MSTS Members?

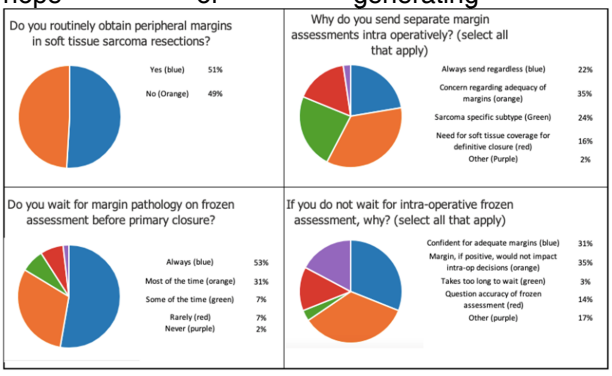
METHODS:

This study was survey study of all MSTS members. Survey questions were reviewed and approved by the MSTS membership committee. The survey was administered with a branching logic format via Microsoft forms in an anonymous fashion. Participation was completely voluntary.

RESULTS:

A total of 108 responses were collected for this survey. Of those, 55 (51%) reported routinely obtaining peripheral margins in soft tissue sarcoma resections. Of the 55 who routinely send margins, participants most commonly cited the reason was for concern of adequacy of the resection. Most individuals who routinely sent margins sent margins regardless of tumor type, and typically send 4-6 peripheral margins. Sampling patterns typically include peripheral anatomic margins and resection areas perceived to be high risk for inadequate resection. Twenty-nine (53%) of participants who routinely send margins reported waiting for margin pathology before primary closure, and 80% utilized frozen margins assessment prior to flap coverage in the same operative encounter. Twenty-nine (65%) of respondents who reported they do not wait for intraoperative frozen cited that they were confident of adequate margins and that if a margin were positive, it would not impact intraoperative decision making.

DISCUSSION AND CONCLUSION: This survey highlights a variety of approaches in clinical practice, in the absence of compelling evidence. The true utility of intraoperative margins would require multicenter consortium of cases with standardization of methods of sampling. Despite this, the results of this survey enhance the understanding of practice patterns within the MSTS, and suggest it is a reasonable standard to sample peripheral margins in a selective fashion. Routine sampling is frequent enough among MSTS members to warrant further study of the utility of this practice, with the hope of generating a standard practice of care.



MSTS Survey: Peripheral Margin Assessment in Soft Tissue Sarcoma						
	Question	Answers				
1	Do you routinely obtain peripheral margins in soft tissue sarcoma resections?	Yes		No		
2	Why do you send separate margin assessments intra operatively? (select all that apply)	Always Send Regardless	Concern regarding adequacy of Margins	Based on Specific Sarcoma Sub-type	Need for soft tissue coverage for definitive closure	Other
3	If you base peripheral margins based on tumor type, which types do you consider? (check all that apply)	Myxofibrosarcoma	UPS	Synovial Sarcoma	Epithelioid Sarcoma	Perform Regardless of tumor type
4	How many margins do you send on average?	1-3	4-6	6-8	8+	
5	How/Where do you sample from? (select all that apply)	Peripheral anatomic margins	Resection areas perceived to be high risk	Planned close margin around neurovascular structures	Other	
6	Do you wait for margin pathology on frozen assessment before primary closure?	Always Send Regardless	Most of the time	Some of the time	Rarely	Never
7	Do you use intra-operative frozen margin assessment prior to pedicled or free flap coverage in the same operative encounter?	Yes		No		
8	If you do not wait for intra-operative frozen assessment, why? (select all that apply)	Confident for adequate margins	Margin, if positive, wouldn't impact operative decision (planned close margin to critical structure with neoadjuvant radiation)	Takes too long to wait	Question accuracy of frozen assessment	Other