

SRO Guidelines on Radiotherapy of Soft-tissue Sarcoma (STS) of the extremities in adults (2015)

Addendum (presented at the 6th SNSAB-meeting 31.03.2016):

Review of literature and international guidelines regarding the indication for radiotherapy in large (>5cm), well differentiated (G1, FNCLCC grading system) deeply located STS

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1. Introduction

In April 2015, the *Swiss Society for Radiation Oncology (SRO)* published the treatment guidelines on Radiotherapy for Soft-tissue Sarcomas (STS) of the extremities in adults (1). The guideline was inaugurated by the Swiss National Sarcoma Advisory Board (SNSAB, meeting 05.03.2015). Radiotherapy for well differentiated (G1, FNCLCC grading system), deeply located STS > 5 cm was considered mandatory.

At the SNSAB-meeting 26/11/2015 (2), the above mentioned indication for G1 STS was challenged. For this reason, the literature as well as current international guidelines were reviewed to specify the SRO recommendations regarding the indication for radiotherapy in deeply located STS > 5 cm.

2. Review of the literature

There are two randomised trials investigating the effect of adding Radiotherapy to wide local excision (3, 4). Both trials demonstrated a significant improvement of local control. In the data reported by Yang and colleagues (3) this benefit was maintained at 9.9 years in the subgroup of G1 STS (n=50, p=0.016). However, the G1 subgroup included intermediate-type of behaviour conditions such as desmoid-type fibromatosis. Significance was lost (p=0.067) following the exclusion of the latter conditions.

Furthermore, the rates of close/involved margins (<1mm) were not balanced between groups (surgery only group: 7/24, surgery + radiotherapy group: 4/26). In the trial of Pisters and colleagues (4), brachytherapy instead of external beam radiotherapy was added to wide local excision. Local control was not improved in the subgroup of G1 sarcoma (p=0.49).

In the large Scandinavian (Scandinavian Sarcoma Group) retrospective analysis (n=1093) (5), a significant reduction of local recurrences was demonstrated by the addition of radiotherapy to wide local excision in most patients including those with deeply located G1 sarcoma with marginal and intralesional margins (5-y local control rate RT vs no RT: marginal margin 96 vs 89%, intralesional margin 90 vs 75%). Local control was excellent in patients with G1 STS resected with wide margins, regardless if radiotherapy was added or omitted (local control 98 vs 96%).

3. Review of International Guidelines

The Scandinavian Sarcoma Group (SSG) guidelines (6) were only published in December 2015 and were therefore not reflected in our guidelines but were consulted for writing this addendum. Furthermore, the current NCCN Guidelines (7), the ESMO guidelines (8) as well as those from British Sarcoma Group (BSG) (9) were reviewed.

The ESMO Guidelines contain no specific recommendation regarding the use of radiotherapy in G1 deeply located STS > 5 cm, whereas all others recommend the addition of radiotherapy in this setting in oncologically inappropriate margins or if surgical resection of a recurrence is anticipated to be mutilating.

4. Conclusion

The Swiss Society for Radiation Oncology (SRO) adopt the international recommendations as stated above.

5. References

- (1) Brodmann et al., SMF 2015;15:430-33
- (2) Protocol, (98) p.12; www.sarcoma.ch, accessed 05.03.2016
- (3) Yang et al., J Clin Oncol 1998;16:197-203
- (4) Pisters et al., J Clin Oncol 1996;14:859-68
- (5) Jebsen et al., Int J Radiat Oncol Biol Phys 2008;71(:1196-1203)
- (6) www.ssg-org.net., accessed 05.03.2016
- (7) www.nccn.org, accessed 05.03.2016
- (8) Ann Oncol 2014;25(Suppl 3):iii102-iii112
- (9) Sarcoma 2010. Article ID 506182