

Supplementary Material

Article

Individualising follow-up strategies in high-grade soft tissue sarcoma with flexible parametric competing risk regression models.

Table S1. Conditional Risks for Local Recurrence – Threshold 4%.

| Interval (months) | 0-3 | 3-6 | 6-9 | 9-12 | 12-15 | 15-18 | 18-21 | 21-24 | 24-27 | 27-30 | 30-33 | 33-36 | 36-42 | 42-48 | 48-54 | 54-60 |
|--|-----|-----|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Clinical Example I UPS, G3, 12cm, male, R0, neoadj. RTX, no adj. RTX, no adj. CTX | 0.3 | 0.8 | 0.8 | 0.7 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.2 |
| | 1.1 | | 1.5 | | 0.9 | | 0.6 | | 0.5 | | 0.4 | | 0.6 | | 0.4 | |
| Clinical Example II Myxofibrosarcoma, G3, 8cm, female, R1/2, neoadj. RTX, no adj. RTX, no adj. CTX | 0.7 | 1.7 | 1.7 | 1.4 | 1.1 | 0.9 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 | 0.8 | 0.7 | 0.5 | 0.5 | 0.4 |
| | 2.4 | | 3.1 | | 2.0 | | 1.4 | | 1.0 | | 1.0 | | 1.2 | | 1.0 | |
| Clinical Example III Synovial sarcoma, G3, 6cm, female, R0, no neoadj. RTX, no adj. RTX, no adj. CTX | 0.7 | 1.5 | 1.5 | 1.2 | 1.0 | 0.8 | 0.7 | 1.2 | 0.5 | 0.4 | 0.4 | 0.3 | 0.6 | 0.5 | 0.5 | 0.4 |
| | 2.2 | | 2.8 | | 1.8 | | 1.0 | | 0.9 | | 0.7 | | 1.1 | | 0.8 | |
| Clinical Example IV Leiomyosarcoma, G2, 4cm, male, R0, no neoadj. RTX, no adj. RTX, no adj. CTX | 0.1 | 2.0 | 2.1 | 1.8 | 1.5 | 1.2 | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 1.0 | 0.8 | 0.7 | 0.7 |
| | 2.8 | | 3.9 | | 2.6 | | 1.9 | | 1.4 | | 1.2 | | 1.8 | | 1.4 | |
| Clinical Example V | 0.2 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
| | 0.7 | | 1.0 | | 0.7 | | 0.5 | | 0.4 | | 0.3 | | 0.4 | | 0.3 | |

Myxoid liposarcoma, G2, 3cm, female, R0, no neoadj. RTX, no adj. RTX, no adj. CTX

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| Clinical Example VI | 1.5 | 3.5 | 3.5 | 2.9 | 2.3 | 1.8 | 1.5 | 1.3 | 1.1 | 1.0 | 0.9 | 0.8 | 1.3 | 1.1 | 1.0 | 0.9 |
| Dediff. Liposarcoma, G3, 9cm, male, R1/2, no neoadj. RTX, no adj. RTX, no adj. CTX | 4.9 | | 6.3 | | 4.1 | | 2.8 | | 2.1 | | 1.6 | | 2.5 | | 1.8 | |
| Clinical Example VII | 0.5 | 1.2 | 1.3 | 1.1 | 0.9 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.6 | 0.5 | 0.4 | 0.4 |
| Leiomyosarcoma, G2, 6cm, female, R1/2, neoadj. RTX, no adj. RTX, no adj. CTX | 1.7 | | 2.4 | | 1.6 | | 1.1 | | 0.9 | | 0.7 | | 1.1 | | 0.9 | |
| Clinical Example VIII | 0.9 | 2.1 | 2.2 | 1.8 | 1.4 | 1.1 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 | 0.8 | 0.7 | 0.6 | 0.5 |
| Synovial sarcoma, G3, 6cm, male, R0, no neoadj. RTX, no adj. RTX, no adj. CTX | 3.1 | | 3.9 | | 2.5 | | 1.7 | | 1.3 | | 1.0 | | 1.5 | | 1.1 | |
| Clinical Example IX | 4.0 | 9.4 | 9.9 | 8.4 | 6.8 | 5.7 | 4.8 | 4.1 | 3.6 | 3.3 | 2.9 | 2.7 | 4.6 | 4.0 | 3.5 | 3.2 |
| Myxofibrosarcoma, G2, 10cm, male, R1/2, no neoadj. RTX, no adj. RTX, no adj. CTX | 12.9 | | 17.4 | | 12.1 | | 8.7 | | 6.8 | | 5.5 | | 8.4 | | 6.6 | |
| Clinical Example X | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.04 | 0.04 | 0.04 | 0.1 | 0.1 | 0.04 | 0.04 |
| Myxoid liposarcoma, G3, 12cm, female, R0, neoadjuvant RTX, no adj. RTX, no adj. CTX | 0.2 | | 0.3 | | 0.2 | | 0.1 | | 0.1 | | 0.1 | | 0.1 | | 0.1 | |

Legend: Conditional risks for local recurrence according to the currently applied follow-up program for ten different clinical examples using the test cohort. Shaded areas highlight follow-up intervals exceeding the threshold of 4% for local recurrence. The first row for each example depicts conditional risks at every 3 months, whilst in the second row, the predicted conditional risks in 6-month-intervals are shown.

Table S2. Conditional Risks for Distant Metastasis – Threshold 2%.

| Interval (months) | 0-3 | 3-6 | 6-9 | 9-12 | 12-15 | 15-18 | 18-21 | 21-24 | 24-27 | 27-30 | 30-33 | 33-36 | 36-42 | 42-48 | 48-54 | 54-60 |
|--|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Clinical Example I UPS, G3, 12cm, male, R0, neoadj. RTX | 5.8 | 11.2 | 7.4 | 7.5 | 7.2 | 5.9 | 4.6 | 3.6 | 2.9 | 2.4 | 2.0 | 1.7 | 2.6 | 1.9 | 1.5 | 1.1 |
| | 17.8 | | 14.3 | | 12.7 | | 7.8 | | 5.2 | | 3.6 | | 4.5 | | 2.6 | |
| Clinical Example II Myxofibrosarcoma, G3, 8cm, female, R1/2, neoadj. RTX | 3.2 | 6.3 | 4.1 | 4.3 | 4.0 | 3.3 | 2.5 | 2.0 | 1.6 | 1.3 | 1.1 | 1.9 | 1.4 | 1.0 | 0.8 | 0.6 |
| | 9.3 | | 8.1 | | 7.1 | | 4.5 | | 2.9 | | 2.0 | | 2.5 | | 1.4 | |
| Clinical Example III Synovial sarcoma, G3, 6cm, female, R0, no neoadj. RTX | 2.9 | 5.7 | 3.7 | 3.7 | 3.6 | 2.9 | 2.3 | 1.8 | 1.4 | 1.2 | 1.0 | 0.8 | 1.3 | 0.9 | 0.7 | 0.6 |
| | 8.4 | | 7.3 | | 6.4 | | 4.0 | | 2.6 | | 1.8 | | 2.2 | | 1.3 | |
| Clinical Example IV Leiomyosarcoma, G2, 4cm, male, R0, no neoadj. RTX | 1.4 | 3.7 | 3.1 | 3.4 | 3.5 | 3.2 | 2.7 | 2.4 | 2.1 | 1.9 | 1.7 | 1.5 | 2.7 | 2.3 | 2.0 | 1.8 |
| | 5.1 | | 6.4 | | 6.6 | | 5.0 | | 3.9 | | 3.2 | | 4.9 | | 3.8 | |
| Clinical Example V Myxoid liposarcoma, G2, 3cm, female, R0, no neoadj. RTX | 0.4 | 0.9 | 0.8 | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 | 0.7 | 0.6 | 0.5 | 0.5 |
| | 1.3 | | 1.6 | | 1.7 | | 1.3 | | 1.0 | | 0.8 | | 1.3 | | 1.0 | |
| Clinical Example VI Dediff. Liposarcoma, G3, 9cm, male, R1/2, no neoadj. RTX | 4.0 | 7.8 | 5.1 | 5.2 | 5.0 | 4.1 | 3.1 | 2.5 | 2.0 | 1.6 | 1.4 | 2.5 | 1.8 | 1.3 | 1.0 | 0.8 |
| | 11.5 | | 10.0 | | 8.8 | | 5.5 | | 3.6 | | 2.9 | | 3.1 | | 1.6 | |
| Clinical Example VII Leiomyosarcoma, G2, 6cm, female, R1/2, neoadj. RTX | 2.1 | 5.5 | 4.6 | 5.1 | 5.2 | 4.7 | 4.1 | 3.5 | 3.1 | 2.8 | 2.5 | 2.3 | 4.0 | 3.4 | 3.0 | 2.7 |
| | 7.5 | | 9.4 | | 9.7 | | 7.5 | | 5.8 | | 4.8 | | 7.3 | | 5.6 | |
| Clinical Example VIII Synovial sarcoma, G3, 6cm, male, R0, no neoadj. RTX | 4.0 | 7.8 | 5.1 | 5.2 | 5.0 | 4.1 | 3.1 | 2.5 | 2.0 | 1.6 | 1.4 | 1.1 | 1.8 | 1.3 | 1.0 | 0.7 |
| | 11.5 | | 9.8 | | 8.8 | | 5.5 | | 3.6 | | 2.5 | | 3.1 | | 1.8 | |
| Clinical Example IX Myxofibrosarcoma, G2, 10cm, male, R1/2, no neoadj. RTX | 1.1 | 3.0 | 2.5 | 2.7 | 2.8 | 2.5 | 2.2 | 1.9 | 1.7 | 1.5 | 1.4 | 1.2 | 2.1 | 1.8 | 1.6 | 1.4 |
| | 4.1 | | 5.1 | | 5.3 | | 4.0 | | 3.2 | | 2.6 | | 3.9 | | 3.0 | |

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|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Clinical Example X | 3.0 | 5.8 | 3.7 | 3.8 | 3.7 | 3.0 | 2.3 | 1.8 | 1.5 | 1.2 | 1.0 | 0.8 | 1.3 | 1.0 | 0.7 | 0.6 |
| Myxoid liposarcoma, G3, 12cm, female, R0, neoadjuvant RTX | 8.5 | | 7.4 | | 6.5 | | 4.1 | | 2.6 | | 1.8 | | 2.3 | | 1.3 | |

Legend: Conditional risks for distant metastasis according to the currently applied follow-up program for ten different clinical examples using the test cohort. Shaded areas highlight follow-up intervals exceeding the threshold of 2% for distant metastasis. The first row for each example depicts conditional risks at every 3 months, whilst in the second row, the predicted conditional risks in 6-month-intervals are shown.