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Correlation of proliferation index Ki67 with grade and time to recurrence of soft tissue sarcoma

Dmitry Martynkov¹, Yana Vishnevskaya², Teymuraz Kharatishvili², Benjamin Bohyan²

¹Russian Cancer Research Center RAMS ²RCRC RAMS, Russian Federation

Background: Analysis of correlation of proliferation index Ki67 with grade and time to recurrence of soft tissue sarcomas.

Methods: We reviewed 34 patients treated in RCRC RAMS. 53% patients were female, 47% - male. Adult patients - 97%, children - 3%. Soft tissue tumors localized on lower extremities in 47% cases (hip, shank), on upper extremities in 20% cases (shoulder, forearm, hand), on trunk in 24% cases, on head and neck in 9% patients. Histological subtypes were monophasic synovial sarcoma - 32%, malignant fibrous histiocytoma - 23%, liposarcoma - 18%, malignant schwannoma - 6%, and other types in isolated instances. Synovial sarcoma more often observed in young and middle age women, malignant fibrous histiocytoma - in old men, liposarcoma - equally often in middle and old men and women. We observed soft tissue sarcoma grade 2 (FNCLCC) more frequently.

Results: Local recurrence development in 35% cases, number of recurrences was from 1 to 6. Distant metastases were in 8 patients (in lungs, bones). We used monoclonal antibody Ki67 (clone MIB-1). Proliferation index Ki67 evaluated in the following way: low level - less than 25% of tumor cells, middle level - 25-50%, high level - more than 50% of tumor cells.

Conclusion: Proliferation activity Ki67 increase in cases with high grade soft tissue sarcoma (in grade 1 tumors - low and middle proliferation activity, in grade 2 tumors - middle and high proliferation activity, in grade 3 tumors - only high proliferation activity). Proliferation activity Ki67 increase in recurrent tumors (2-3 times more in comparison with primary tumors). In cases with low level of proliferation index Ki67 were observed long interval to local recurrence and distant metastases. If level of Ki67 was high, time interval to local recurrence was short, lethal outcome occurred often.

E-mail (main author): generaloncology@rambler.ru