Accuracy of the sarcoma diagnosis in a swiss referral center
A comparative Analysis from the SwissSarcomaNetwork

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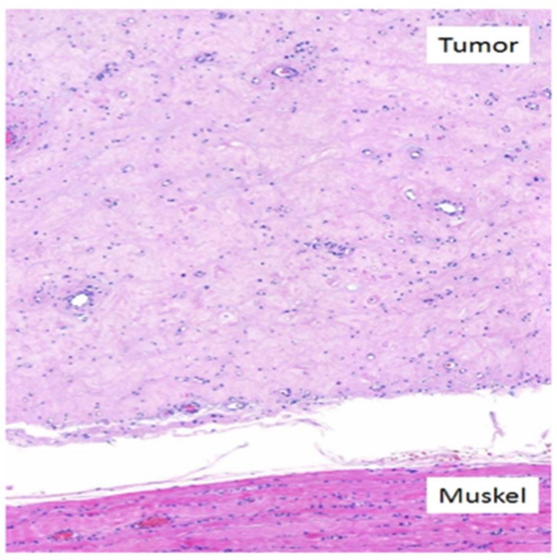
INTRODUCTION

Soft tissue tumors are rare tumors and histological examination remains a challenge. The diagnostics and treatment planning of soft tissue tumors are critically dependent on the pathological examination.

The French sarcoma network has established the importance of secondary expert path reading by pathologists who see more than 300 tumors a year. In Switzerland, pathological analysis is established locally, and then sometimes secondarily reviewed by a reference pathologist. Herein, we assess the accuracy of the diagnosis from the local pathologist compared to the diagnosis from the reference pathologist.



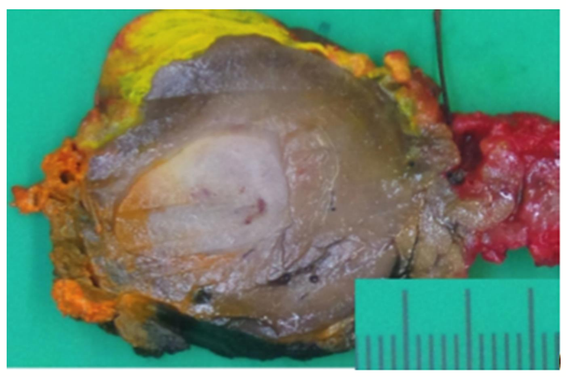


Fig.1A (left): Example of a Liposarcoma (Histology)
Fig. 1B (top): Example of a Liposarkoma (Macropathology)

METHODS

We examine retrospectively all pathology reports from a Swiss referral center between January 2019 and December 2020. All reports were presented at the SwissSarcomaBoard and were reviewed secondarily by the reference pathologist. Patients with incomplete records were excluded. We categorized the accuracy in groups A, B and C, according to the classification which was presented 2014 in „sarcoma“ (1). Cases without no discrepancy in diagnosis were classified under category A. Category B includes cases with minor discrepancy in diagnosis with no therapeutic consequences. Category C contains all cases, where the diagnosis from the reference pathologist changed the treatment.

Benign	*Intermediate*	*Malignant*
Lipoma (41 cases)	Atypical lipomatous tumour/well differentiated liposarcoma (9 cases)	Unclassified/undifferentiated Sarcoma (13 cases)
Intramuscular myxoma (7 cases)	Tenosynovial giant cell tumour (PVNS) (5 cases)	Dedifferentiated Liposarcoma (11 cases)
Schwannoma (6 cases)	Desmoid-type fibromatosis (4 cases)/ Aneurysmal bone cyst (4 cases)	Leiomyosarcoma (9 cases)

Tab.1 Most common Diagnosis

RESULTS

A total of 198 Cases were analysed. 105 patient were female and 93 were male, and the median age was 57 (range 14-88) years. 83 Cases were classified as benign (41.9%), 77 cases were malignant (38.9%) and 35 cases were intermediate (17.7%).

The most common benign diagnosis was lipoma (41 cases, 49.4% of all benign tumors)), followed by the intramuscular myxoma (9 cases, 10.8% of all benign tumors). Regarding the malignant diagnosis, undifferentiated/unclassified sarcoma was the most common diagnosis (13 cases, 16.9% of all malignant tumors) followed by the dedifferentiated liposarcoma (11 cases, 14.3%).(Tab.1)

154 tumors (77.8%) were diagnostically concordant or had minimal diagnostic discrepancies. Of the latter 154 tumors, 46.7% were benign, 33.5% were malignant and 18.4% were intermediate. There were 20 cases (10.1%) with minor discrepancies. Of these, 70% were malignant, 15% intermediate and 15% benign diagnoses.

There were 24 tumors (12.1%) with major discrepancies . 50% of these were malignant cases. From these major discrepancies, 12 cases were classified in this category because of lacking of a diagnosis in the final report from institution A. In one case, there was a reclassification from benign to malignant and one case was reclassified from malignant to benign. (Fig. 2)

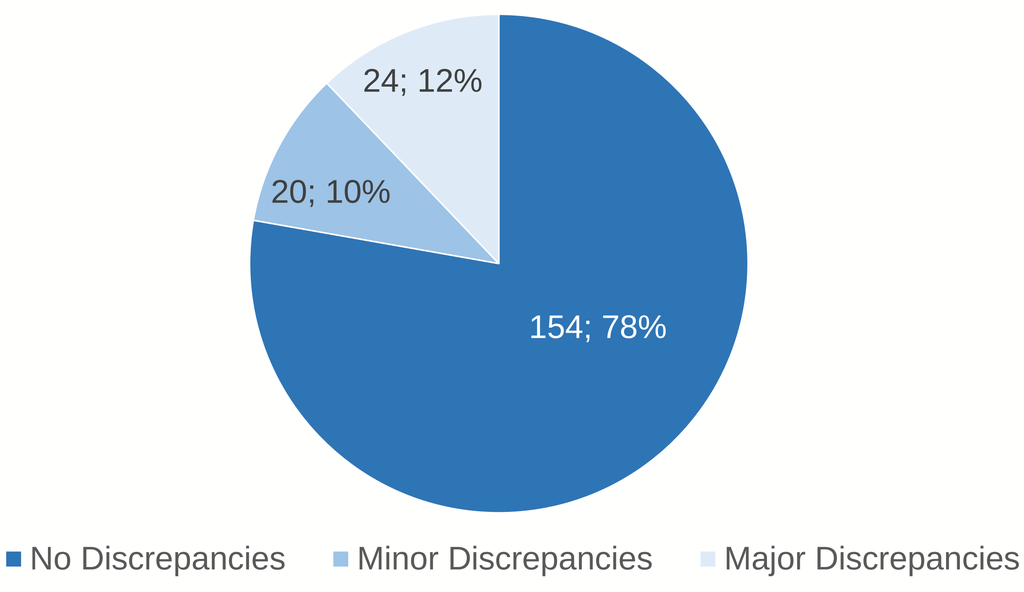


Fig. 2, Comparison of Accuracy

CONCLUSION

Our results confirm the importance of a pathological second review by a reference pathologist as in 16% from all malignant biopsies there is a significant change in the therapy after expert review. With an overall concordance of 78 %, the results are comparable to the already published literature (1, 2).

REFERENCES

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SWISS SARCOMA NETWORK

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