

Title: **Re-Excision Of Residual Sarcomas ("Second-Look Surgery"): Analysis Of Our Results**

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**Introduction:** Sarcomas represent less than 1% of all malignant tumours but can cause significant morbidity and mortality at any age and site. It is frequent that some may be misdiagnosed and inappropriately resected before establishing a correct histological diagnostic. It is also important to do a histological review of the tumour specimen not only to confirm the diagnostic, but also to know the surgical margins because they predict the risk of local recurrence.

The aim of our study is to describe the oncologic evolution of patients that were operated for a re-excision of a residual sarcoma. We also want to correlate the efficacy of MRI in detecting residual tumors with the histological findings.

**Methods:** Retrospective review of patients undergoing second-look surgery of sarcomas between November 2001 and July 2013. Epidemiological data and data related to the initial surgery, to the second-look surgery, the subsequent evolution and adjuvant treatments were analysed.

**Results:** 35 patients, mean age 48 years were treated. Follow-up 52 months. 34 cases (97%) came from another centre after the first surgery: 26 (74%) with surprising diagnosis on histological examination ("whoops surgery"), 5 (14%) due to tumour persistence and 3 (9%) surgical margins positive. In all cases histology was reviewed, with the most frequent diagnosis being synovial sarcoma. Before the first surgery, 29% of patients had no additional examinations, and only 11% had previous biopsy. MRI detected the presence of tumour persistence in 53% of patients. The average time between the first surgery and the second-look surgery was 3 months. In the histological analysis after the second-look surgery, 22% of cases showed that residual tumour persisted.

**Conclusions:** The preoperative evaluation of sarcomas is essential to plan the removal and / or optimal adjuvant therapies. Synovial sarcoma is the most common finding in the "whoops surgeries." MRI is a good imaging technique for the detection of residual tumor but we must consider that there are false positives and negatives, so in cases of inadequate surgical resection of sarcoma we must restudy and expand margins to ensure early full excision of residual foci that could compromise the oncologic patient outcome.