SOFT TISSUE SARCOMAS POST R1 / R2 RESECTIONS (WHOOPS! LESIONS)

1) Facts
- outcome following unplanned excisions is poorer than following planned oncological surgery
- microscopic tumor is found in some 50% of re-excisions
- presence of microscopic tumor in re-excised specimen is associated with poorer outcome due to metastasis
- assessing residual macro-/microscopic disease after whoops surgery on MRI as well as review of pathology is mandatory before re-excision.
- initial grade, size, scar orientation/positioning, contamination of compartments, and tumor biology play important roles to plan re-excision.
- all whoops material has to be re-assessed by a reference sarcoma pathologist.

Treatment strategy has to be individualized and orchestrated
at the interdisciplinary Sarcoma Board!

>> Assessment by sarcoma surgeon regarding re-excision, i.e. salvage surgery, as very next step is crucial because only complete removal of surgical tumor bed is able to render the patient disease free.

>> Assessment by radiation oncologist regarding combined therapy and radiation therapy (RT) sequence (pre salvage surgery, post salvage surgery, definitive RT, palliative RT, no RT) is crucial

2. Salvage therapy
2.1. Salvage Surgery (re-operation/2nd surgery)
   - First question: re-excision possible?
   - general rule: re-surgery is the treatment of choice

2.1.1. Salvage surgery (re-operation/2nd surgery) possible: individualized procedure, in most cases in combination with preoperative RT
2.1.2. **Reasons not to perform salvage surgery in curative intent**

- no metastases:
  - patient refuses amputation
  - amputation does not render R0 situation
  - reconstruction of soft tissue defects and/or vessels and/or neural structures is not possible or not meaningful (ie tibial trifurcation) because of functional consequences and potential rehab

- with metastases:
  - no local surgery cures a patient, therefore, amputation is used very prohibitively

2.2. **Radiation Therapy (RT)**

2.2.1. RT with curative intent:

  → In combination with salvage surgery (=2\textsuperscript{nd} surgery) as defined above: preoperatively (or postoperatively)
  
  → Local definitive RT in selected cases if surgery is not indicated/not possible (as defined above) → has to be assessed by a radiation oncologist (‘reasonable tumor volumes/reasonable planning target volumes (PTVs)/acceptable expected late effects’ ?)

2.2.2. RT with palliative intent:

  → Symptomatic primary or metastases, if no curative RT nor curative salvage surgery possible

3. **Systemic therapy**

3.1. Curative situation (no metastases):

combination chemotherapy following (RT-)surgery (post whoops or post re-excision) may represent an option in case of G3 and/or large sarcomas (>10cm) and needs to be individualized for each patient’s situation.

3.2. Palliative situation (metastases, local progress)

is individualized for each patient’s situation