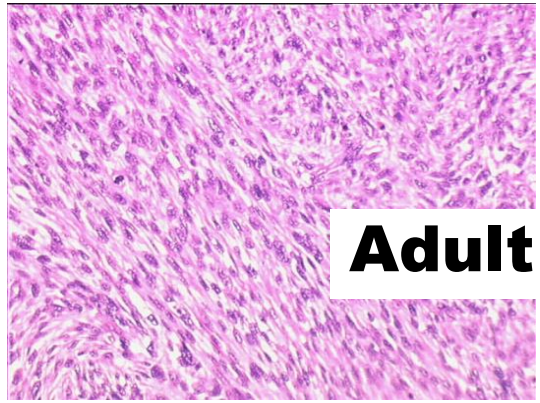
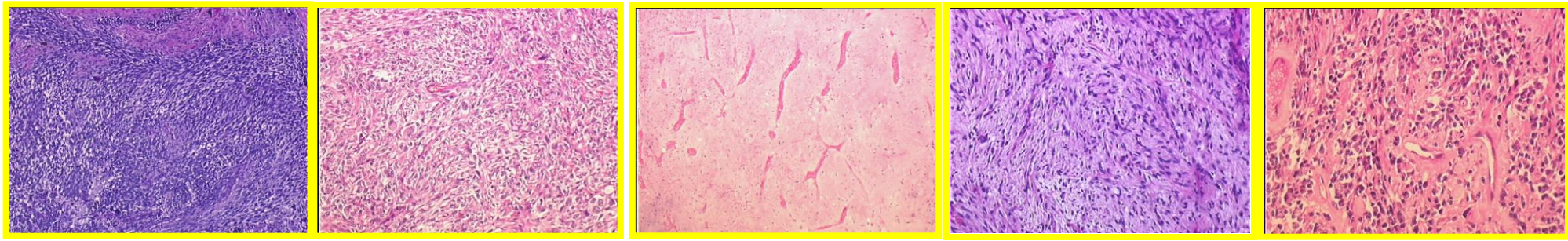
Conclusions

- No randomized evidence favors the use of neoadjuvant tx in STS

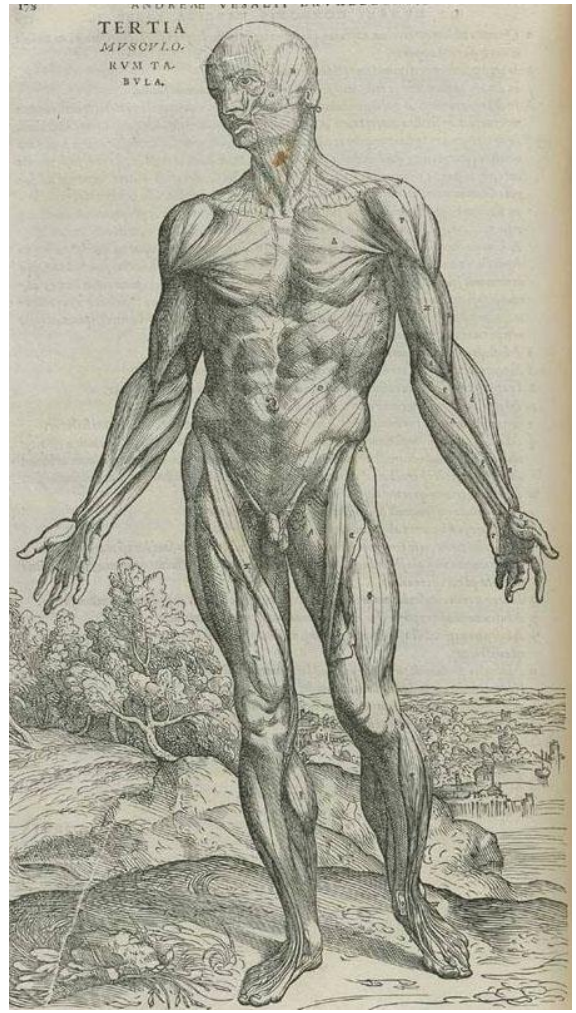
but



Adult type soft tissue sarcoma



UPS SINOVIALSA LIPOSA LEIOMIOSA MPNST



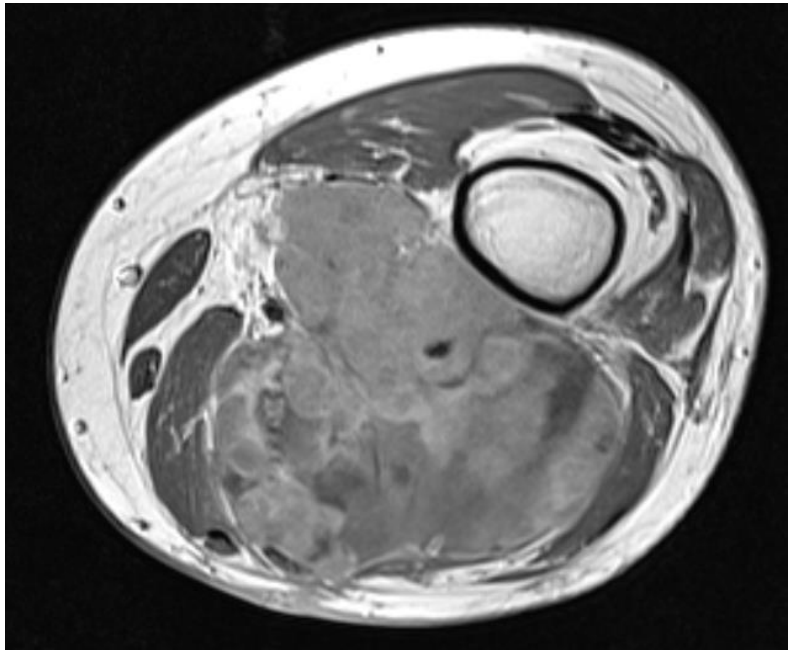
Heterogeneous presentation

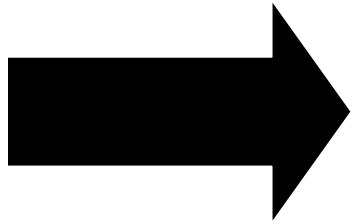
There are good reasons to use it when

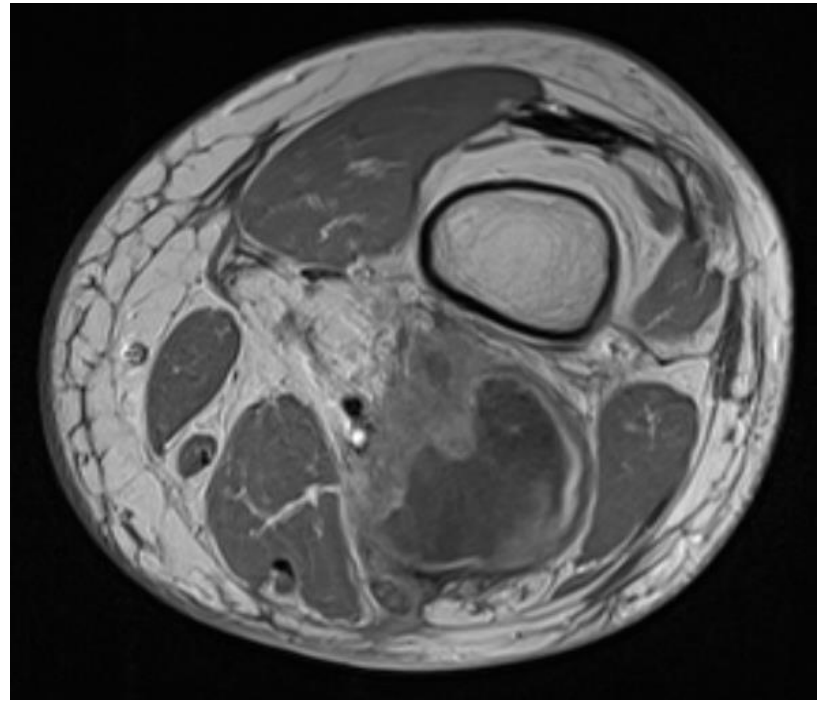
- The tumor is borderline resectable

Deep and large UPS

3 courses CT (E.I.) + RT (50 Gy)

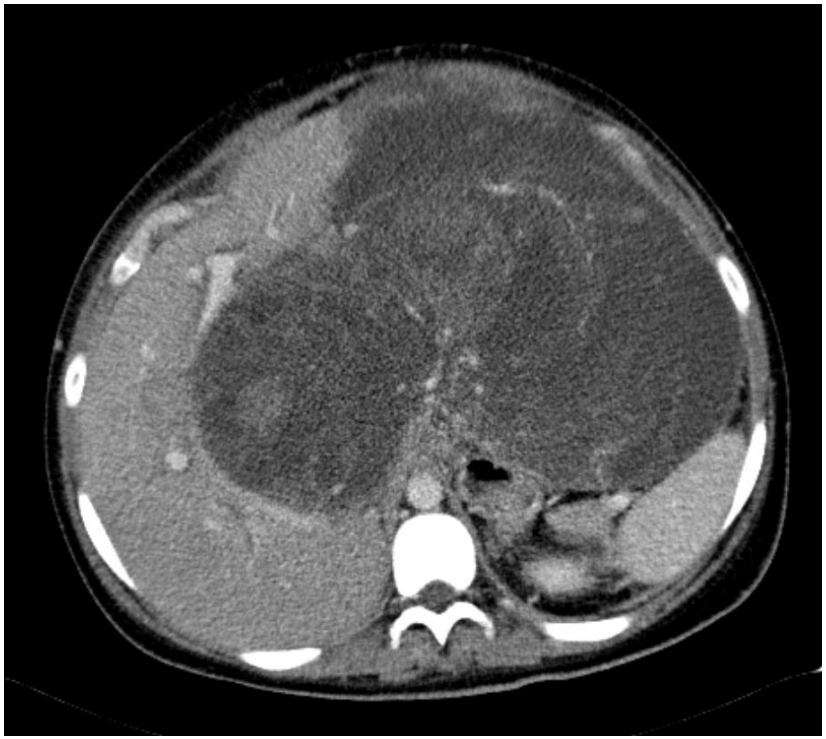


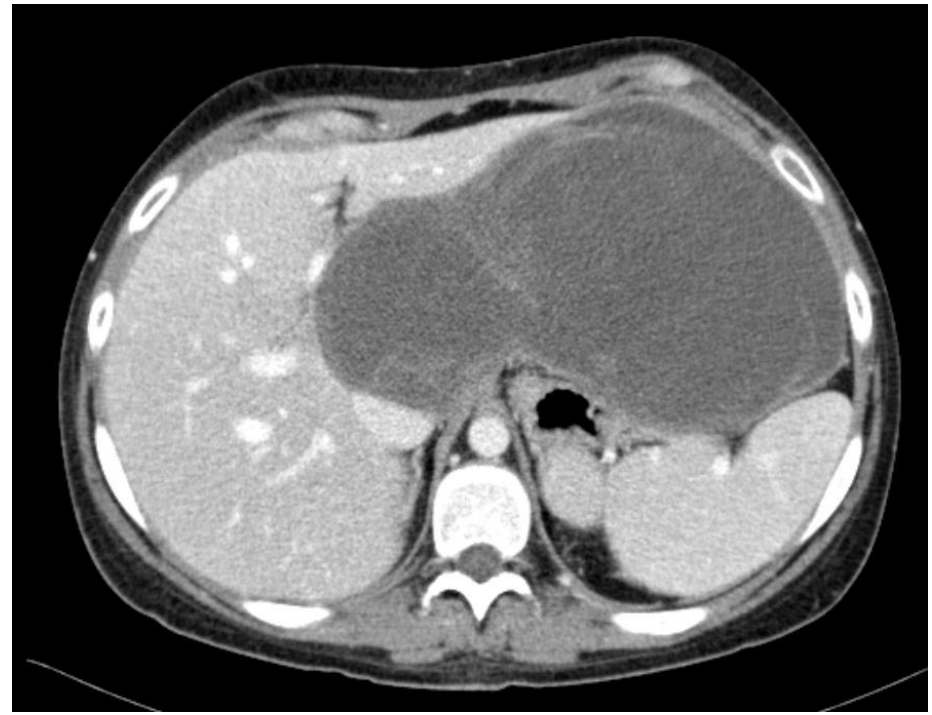




DD Liposarcoma

3 courses CT (E.I.)

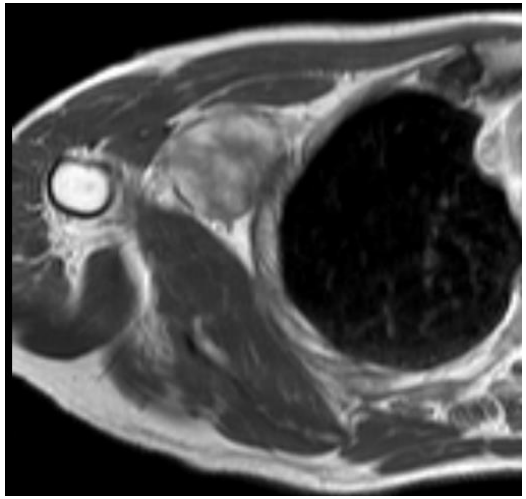


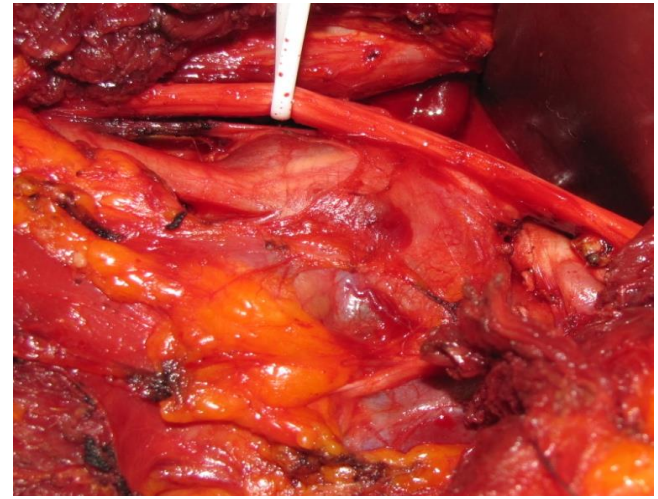


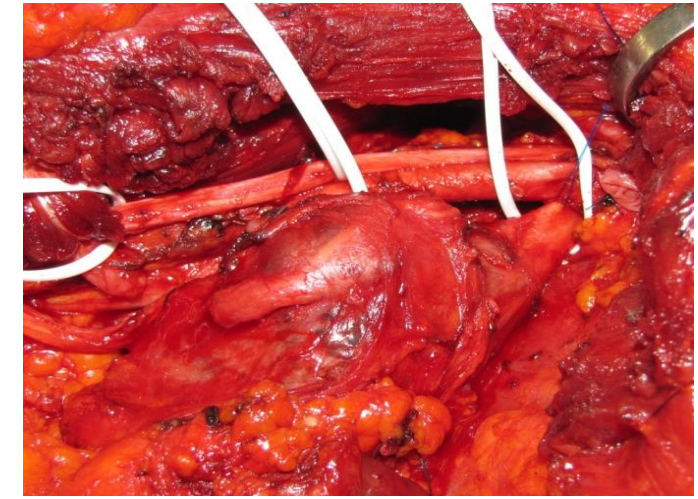
There are good reasons to use it when

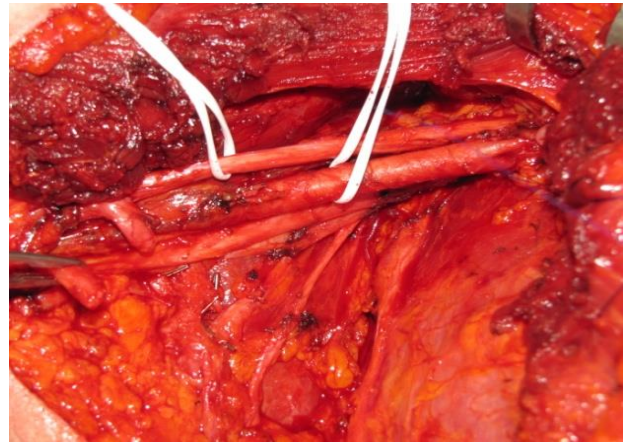
- The tumor is borderline resectable
- Function preservation is a goal

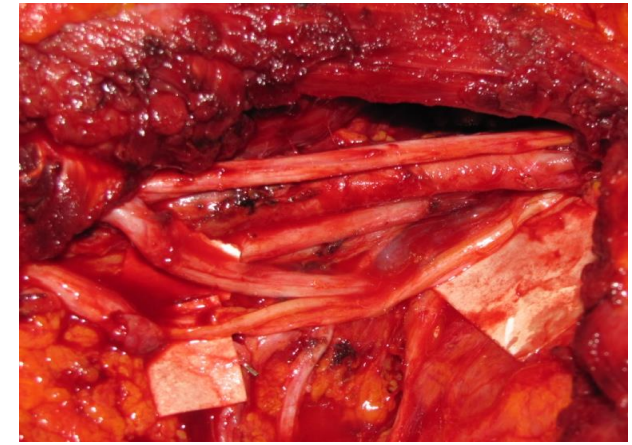
Nerve grafts









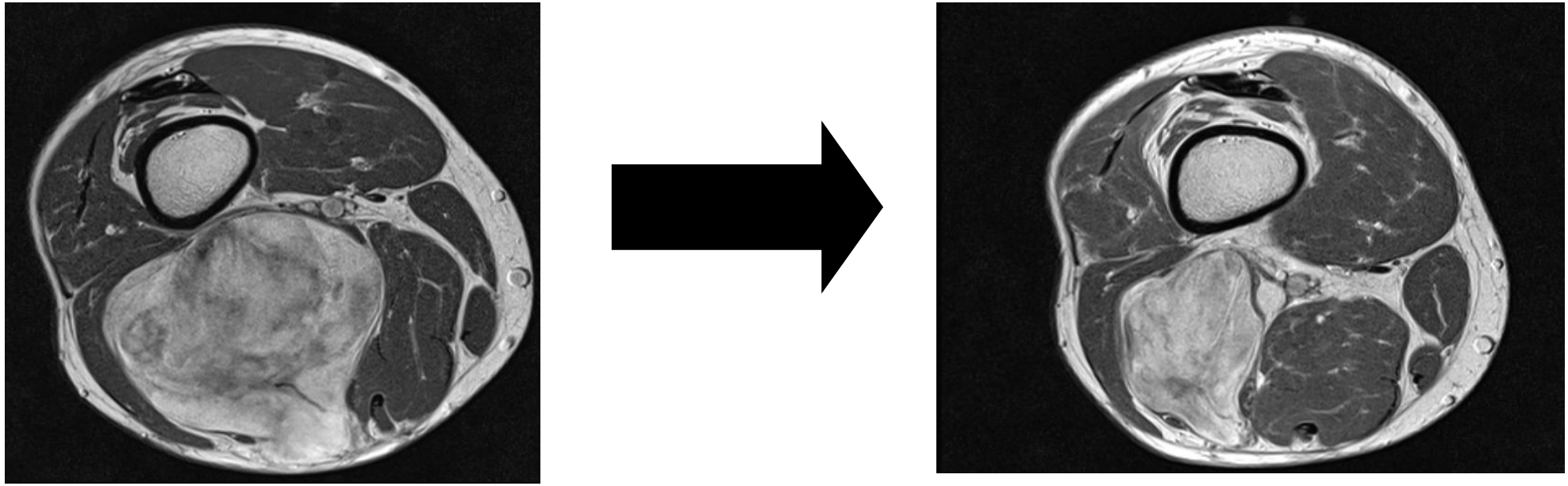


There are good reasons to use it when

- The tumor is borderline resectable
- Function preservation is a goal
- The histotype is known to be sensitive

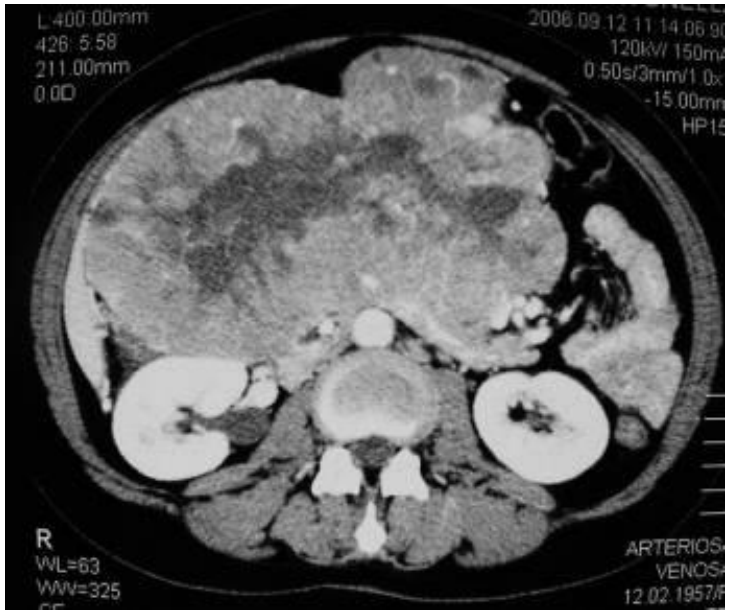
Myxoid liposarcoma

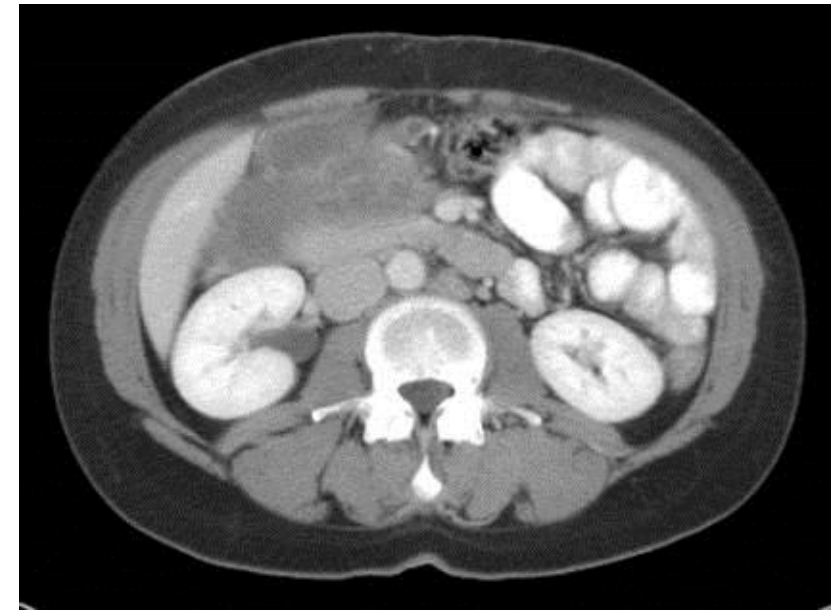
Preop RT may be very effective



GIST

Imatinib is highly effective in 90% of the cases





There are good reasons to use it when

- The tumor is borderline resectable
- Function preservation is a goal
- The histotype is known to be sensitive
- The biologic risk is high and you want to test whether the available Tx may be effective

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Soft tissue and visceral sarcomas: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up†

The ESMO/European Sarcoma Network Working Group*

Extraskeletal Ewing sarcoma is covered by other ESMO Guidelines: in general, the same principles for these tumours in children apply to adults. This is also the case for embryonal and alveolar rhabdomyosarcoma, which are exceedingly rare in adults. On the other hand, pleomorphic rhabdomyosarcoma is viewed as a high-grade adult-type soft tissue sarcoma. Gastrointestinal stromal tumours are covered by the dedicated ESMO Clinical Practice Guidelines. Kaposi's sarcoma is excluded.

incidence

Adult soft tissue and visceral sarcomas (excluding gastrointestinal stromal tumour) are rare tumours, with an estimated incidence averaging 4–5/100 000/year in Europe [1].

diagnosis

Soft tissue sarcomas (STSs) are ubiquitous in their site of origin and are often managed with multimodality treatment. A multidisciplinary approach is therefore mandatory in all cases (involving pathologists, radiologists, surgeons, radiation therapists, medical oncologists and paediatric oncologists, as well as nuclear medicine specialists, organ-based specialists, as applicable). Management should be carried out in reference centres for sarcomas and/or within reference networks sharing multidisciplinary expertise and treating a high number of patients annually. These centres are involved in ongoing clinical trials, in which sarcoma patients' enrolment is common. This centralised referral should be pursued as early as at the time of the clinical diagnosis of a suspected sarcoma. In practice, referral of all patients with a lesion likely to be a sarcoma would be recommended. This would mean referring all patients with an unexplained deep mass of soft tissues, or with a superficial lesion of soft tissues having a diameter of >5 cm. Quality criteria are needed for sarcoma reference centres and, all the more, reference networks. These criteria may vary from country to country but, among others, should be based on: multidisciplinarity (incorporating tools such as weekly tumour boards discussing new cases), volume of patients, availability of facilities needed to properly apply clinical practice guidelines, recording and publication of outcomes.

In soft tissue tumours, magnetic resonance imaging (MRI) is the main imaging modality in the extremities, pelvis and trunk. Standard radiographs may be useful to rule out a bone tumour, to detect bone erosion with a risk of fracture and to show calcifications. Computed tomography (CT) has a role in calcified lesions to rule out a myositis ossificans, and in retroperitoneal tumours, where the performance is identical to MRI. Ultrasound may be the first exam, but it should be followed by CT or MRI.

Following appropriate imaging assessment, the standard approach to diagnosis consists of multiple core needle biopsies, possibly by using ≥14–16 G needles. However, an excisional biopsy may be the most practical option for <3 cm superficial lesions. An open biopsy may be another option in selected cases, as decided within reference centres. An immediate evaluation of tissue viability may be considered, to ensure that the biopsy is adequate at the time it is carried out. However, a frozen-section technique for immediate diagnosis is not encouraged, because it generally does not allow a complete diagnosis, particularly when preoperative treatment is planned. Fine needle aspiration is used only in some institutions, which have developed specific expertise on this procedure, and is not recommended outside these centres. A biopsy may underestimate the tumour malignancy grade. Therefore, when preoperative treatment is an option, radiological imaging (including positron emission tomography, PET) may be useful, in addition to pathology, in providing the clinician with information that helps to estimate the malignancy grade (i.e. necrosis). The biopsy should be carried out by a surgeon or a radiologist, after multidisciplinary discussion, as needed, within reference centres. It should be planned in such a way that the biopsy pathway and the scar can be safely removed by definitive surgery (except for retroperitoneal sarcomas, RPS). The biopsy entrance point can be tattooed. The tumour sample should be fixed in 4% buffered formalin in due time (Bouin fixation should not be used, since it prevents molecular analysis). The collection of fresh/frozen tissue and tumour imprints (touch preps) is encouraged, because new molecular pathology assessments could be made at a later stage in the patient's interest. In this perspective, the availability of a blood sample could add to the value of tumour tissues. Informed consent for biobanking should be sought, enabling later analyses and research, as long as this is allowed by local and international rules.

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Gastrointestinal stromal tumours: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up†

The ESMO/European Sarcoma Network Working Group*

incidence

Gastrointestinal stromal tumours (GISTs) are rare tumours, with an estimated unadjusted incidence of around 1/100 000/year [1]. This only covers clinically relevant GISTs, since it is likely that a much higher number of microscopic lesions could be found pathologically, if looked for.

The median age is around 60–65 years, with a wide range. Occurrence in children is very rare, although paediatric GIST represents a distinct subset, marked by female predominance, absence of *KIT*/platelet-derived growth factor alpha (PDGFRA) mutations, gastric multicentric location, and possible lymph node metastases [2].

Some syndromes are linked to GISTs:

- the Carney triad syndrome in succinate dehydrogenase subunit B (SDHB)-deficient GIST, marked by gastric GISTs, paraganglioma, and pulmonary chondromas (these may occur at different ages) [3].
- Carney-Stratakis syndrome, marked by germ-line mutations of SDH subunits A, B, C, and D, leading to a dyad of GIST and paraganglioma [4, 5].
- neurofibromatosis type 1, marked by wild-type, often multicentric GIST, predominantly located to the small bowel [6].

Families with germ-line autosomal dominant mutations of *KIT* are a rare finding, presenting with multiple GISTs at an early age.

diagnosis

When small oesophago-gastric or duodenal nodules <2 cm in size are detected, endoscopic biopsy may be difficult and laparoscopic/laparotomic excision may be the only way to make a histological diagnosis. Many of these small nodules, if diagnosed as GISTs, will be low risk, or entities whose clinical significance remains unclear. Therefore, the standard approach to these patients is endoscopic ultrasound assessment and then annual follow-up, reserving excision for patients whose tumour increases in size or becomes symptomatic. Alternatively, the decision can be shared with the patient to make a histological assessment, also depending on age, life expectancy, and co-morbidities. If follow-up is the choice, an evidence-based optimal surveillance policy is lacking. A logical choice may be to have a short-term first control (e.g. at 3 months), and then, in the case of no evidence of growth, a more relaxed follow-up schedule may be selected.

In a histologically proven small GIST, standard treatment is excision, unless major morbidity is expected. Alternatively, in the case of a low-risk GIST, the decision can be shared with the patient to follow-up the lesion. However, the standard approach to rectal (or recto-vaginal space) nodules is biopsy/excision after ultrasound assessment, regardless of the tumour size, because the risk of a GIST at this site is higher and the local implications for surgery are more critical. A follow-up policy may be an option, to be shared with the patient, in the case of small lesions and in specific clinical contexts.

The standard approach to nodules ≥2 cm in size is biopsy/excision, because, if GIST, they are associated with a higher risk. If there is an abdominal nodule not amenable to endoscopic assessment, laparoscopic/laparotomic excision is the standard approach. If there is a mass, especially if surgery is likely to be a multivisceral resection, multiple core needle biopsies are the standard approach. They should be obtained through endoscopic ultrasound guidance, or through an ultrasound/computed tomography (CT)-guided percutaneous approach. This may allow the surgeon to plan the best approach according to the histological diagnosis and may avoid surgery for diseases that do not merit it (e.g. lymphomas, mesenteric fibromatosis, and germ cell tumours). The risk of peritoneal contamination is negligible if the procedure is properly carried out. Moreover, lesions at risk in this regard (e.g. cystic masses) should be biopsied only in specialised centres. Immediate laparoscopic/laparotomic excision is an alternative on an individualised basis, especially if surgery is limited. If a patient presents with obvious metastatic disease, then a biopsy of the metastatic focus is sufficient and the patient usually does not require a laparotomy for diagnostic purposes. The tumour sample should be fixed in 4% buffered

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