

## MINIMAL WORKUP REQUIREMENTS

### Introduction

Multidisciplinary patient management is absolutely crucial to optimize the therapy success. It is recommended that biopsy and surgery be performed by the same team/person.

### When is a mass suspicious for malignancy (sarcoma)?

Soft tissue: - each subfascial mass (situated underneath the fascia)

- any rapidly growing mass > 3cm and/or symptomatic
- each superficial (epifascially located) mass >3-5cm (depending on localization).
- any superficial mass suspicious for sarcoma (except for "classic" lipoma)

Bone: - any aggressively looking lesion on conventional Xray.

### What does an initial (local) imaging include to strengthen my suspicion?

- conventional radiographs of local tumor in 2 projections (mandatory for bone, optional for selected soft tissue lesions)
- MRI w/wo IV Gadolinium

### When should a biopsy be planned / performed?

- any mass suspicious for sarcoma
- after completion of local imaging
- after presentation at regional Sarcoma Board (or at least contacting it; Addendum 4)

### How is the biopsy organized?

- always in consultation with sarcoma surgeon to determine biopsy tract
- core biopsy (CT- or US-guided): whenever possible
- excisional biopsy only when tumor <2cm and superficial; or: after presentation at a sarcoma board
- fine needle biopsy: only recommended with experienced pathologist. Indications: confirmation of local recurrences and metastases or where a core biopsy risks significant morbidity
- incisional biopsy: usually not indicated as first line approach; after tru-cut failure
- histopathological diagnosis of the soft tissue mass has been confirmed/read by Sarcoma Center reference Pathologists (Addendum 5)

### What do I do when sarcoma diagnosis is confirmed?

- send patient to regional Sarcoma Center (all bone sarcomas; Addendum 4); or:
- complete staging (see below)
- make sure that patient management strategy is discussed at regional Sarcoma Board.

### How do I need to complete staging?

- chest CT (PET-CT usually not necessary)
- thoraco-abdominal CT for myxoid liposarcoma

### Concluding remarks:

It is imperative that referring/family physician be informed about each therapy step/strategy. If there is any doubt regarding management, please always contact your nearest Sarcoma Center.

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### ADDENDUM 1:

#### What about “classic” lipomatous lesions?

- \* superficial (epifascial) lesion
  - proceed with surgery in case of “classic” lipoma <5cm
  - in case of doubt and/or >5cm:
    - proceed with MRI imaging;
    - if still unclear:
      - proceed with biopsy
- \* subfascial (deep) lesion → proceed with biopsy as outlined above

#### MRI imaging of lipomatous lesions:

The following parameters increase the likelihood of atypical lipomatous tumor (ALT)

- deep (subfascial) location
- presence of non-fatty areas / septae / contrast enhancement
- age > 60 yrs
- size > 10cm
- lower limb location

#### Pathology of lipomatous lesions:

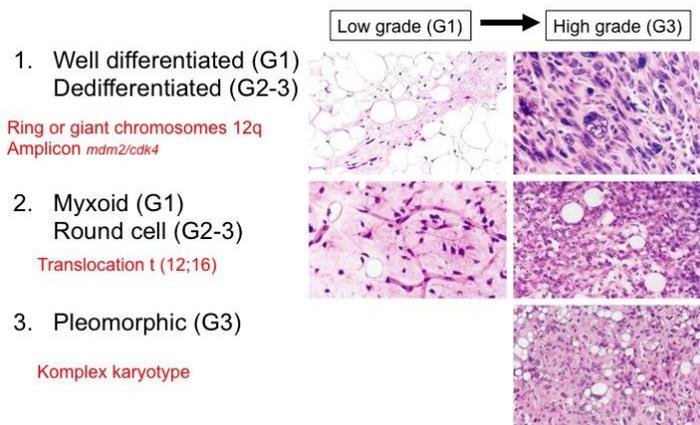
Ask for the expression of biomarkers: MDM2 and CDK4 proteins

MDM2 and CDK4 proteins are expressed in atypical lipomatous lesions (ALT), but not lipomas !

→ immunohistochemistry (IHC) has 80% sensitivity to distinguish between classic lipoma and ALT; in suspicious lesions proceed with IHC, when negative perform FISH.

#### Current Histopathological Classification of Lipomatous Tumors (incl. molecular features):

1. Lipoma (incl. variants) → benign fatty tumor
2. Atypical lipomatous tumor (ALT) – synonym well-differentiated liposarcoma (WDLS): lipoma like fatty tumor with risk of local recurrence and dedifferentiation, defined histopathologically by the demonstration of the overexpression of the products and/or amplification of *mdm2/cdk4* (12q13-14) in lipomatous tissue. ALT is diagnosed in the extremities (most often resectable); WDLS is diagnosed in the retroperitoneum and mediastinum (R0 resection not possible in most instances; mortality risk)



Therefore, performing a biopsy of lipomatous lesions has its importance; based on this information, the surgical approach can be adapted.