Soft Tissue Lumps and Sarcoma in Adults

Disclaimer

This pathway is about soft tissue lumps in the trunk and limbs, with the aim of detecting sarcoma.

See also Neck Lumps in adults pathway.

Contents

Red Flags

- Greater than 5 cm in diameter (golf ball size) but any lump observed to be growing rapidly
- Deep to muscular fascia (fixed), any size, painful and persistent
- Recurring after a previous sarcoma excision

Background – About Soft Tissue Lumps and Sarcoma in Adults

- Most subcutaneous soft tissue lumps seen in general practice are benign. Lipomas are the most common.
- Less than 1% of subcutaneous lumps seen in general practice are malignant, and although rare, it is important to consider soft tissue sarcoma.
- If any of the red flags are present, about 10% prove to be malignant.
- Pain may indicate nerve or bone involvement but most malignant lumps are asymptomatic.
- Soft tissue sarcomas are the most common subcutaneous malignancy but still represent < 1% of all malignancies. A general practitioner may only encounter 1 or 2 cases every 20 years.
- Bone and soft tissue sarcomas occur at all anatomic body sites. The majority of sarcomas occur in the extremities (particularly thigh, buttock, and groin) accounting for 46% of soft tissues sarcomas.

Assessment

Practice Point

Aim for early detection

Delayed diagnosis of sarcomas is common. There needs to be a high index of suspicion, as early detection and referral are crucial to achieving timely treatment and best prognosis.

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1. History:
    - Consider ***risk factors*** for sarcoma.
        - *Past history of malignancy*
        - *Previous radiotherapy*
        - *Exposure to chemicals e.g., arsenic, vinyl chloride, phenoxy herbicides, wood preservatives containing chlorophenols*
        - *Neurofibromatosis*
        - *HIV or AIDS*

    - Ask about ***lump or mass history.***
        - *Duration.*
        - *Rate of growth.*
        - *Recurrence after previous excision of sarcoma.*
        - *Associated symptoms. Most are asymptomatic but local pain or pressure symptoms can occur as tumour expands.*

- *Pain may indicate nerve or bone involvement. Although most malignant lumps are painless, most bone sarcomas are associated with progressive pain.*
- *Gynaecological symptoms – abnormal bleeding and pelvic or uterine mass e.g. Fibroids (leiomyosarcoma).*

2. Examination:

- Record location, size, and texture – soft tissue sarcomas occur mainly in the extremities. 46% occur in the thigh, buttock, and groin area.
- Assess ***mobility*** i.e., attached to skin, deep fascia, or bone.
  Mobility
  Assess mobility of the lump with the underlying muscle compartment relaxed and then contracted:
  - *If remains mobile when contracted then superficial.*
  - *If becomes fixed when contracted then deep or tethered to the fascia.*
- Check for presence of surrounding swelling.
- Look for signs consistent with nerve impingement or involvement.

3. Consider ***differential diagnosis.***

- *Benign tumours – lipoma (most common), fibroma, Shwanomma, Desmoid tumour (can be aggressive and invade local tissues)*
- *Haematoma – post trauma, persisting beyond expectation (i.e. possibility of sarcoma)*
- *Reactive or infective e.g. abscess*
- *Neck lumps in adults*
- *Reactive lymphadenopathy*
- Palpable thyroid nodules
- Salivary gland disorders *presenting as a mass*
- *Epidermoid cysts of the skin*
- *Ganglion*
- *Baker's cyst*
- *Hernia*
- Fibroids
- *Sarcoma*

4. Investigations:

- If there is any doubt with results (***red flags)*** or suspicious findings on assessment, do not delay specialist referral, as early diagnosis and treatment may be crucial.
  Red flags
  - *Greater than 5 cm in diameter (golf ball size) but any lump observed to be growing rapidly*
  - *Deep to muscular fascia (fixed), any size, painful and persistent*
  - *Recurring after a previous sarcoma excision*
- Investigations may not be required if there is a clear clinical diagnosis e.g. mobile or cystic masses < 5 cm diameter (simple lipoma, ganglion cyst, or Baker's cyst).
- If suspicious lesion, consider:
  - ***ultrasound***.
    - *Generally, may help differentiating solid from cystic lesions, superficial or deep to muscular fascia, and may identify other suspicious features for further investigation.*
    - *Not used to make a final positive diagnosis of lumps (including lipoma, fibroids, sarcoma), but may used as a screening tool to identify concerning radiological features.*

        - *Do not arrange ultrasound if lump is deep to muscular fascia (fixed), painful, growing, firm (i.e. not clinically a lipoma), or recurring after a previous sarcoma excision.*
        - *Not recommended if sarcoma is suspected. It may delay referral for specialist assessment and definitive diagnosis.*
        - *May mistake necrotic sarcomas for benign cysts.*
    - *further investigations and imaging – more appropriately arranged by referring to the appropriate specialists or to the Sarcoma Centre.*

Management

1. Refer for immediate orthopaedic referral or admission if ultrasound shows:
    - a mass deep to the muscular fascia or involving fascia.
    - any mass that has vascularity.
    - any concerning radiological features.

2. For suspected sarcoma, arrange urgent Sarcoma Centre Specialist referral without delaying to order investigations.

3. If ultrasound suggests malignancy in fibroids ***(leiomyosarcoma***), refer urgently to gynaecological oncologist.
   Leiomyosarcoma
    - *Mixed echogenic and non-echogenic parts*
    - *Central necrosis*
    - *Doppler – irregular vessel distribution, low impedance, high peak systolic velocity*

4. If sarcoma is not suspected, refer for urgent or routine orthopaedic referral without FNA, biopsy, or imaging if lump is:
    - deep to fascia (fixed)
    - painful
    - growing
    - firm (i.e. not clinically a lipoma)

5. If recurring after a previous sarcoma excision, arrange urgent Sarcoma Centre Specialist referral.

6. If a malignant lymph node is suspected but no concerns of sarcoma, refer for ***open biopsy*** via urgent or routine general surgery referral.
   Open biopsy
    - *Allows the whole specimen to be examined, which is required if lymphoma is suspected.*
    - *Send the lymph node specimen to the laboratory without delay and without preservative.*

7. If there is known history of cancer (other than sarcoma) and metastatic node is suspected, arrange urgent or routine general surgery referral for further assessment and investigations, e.g. FNA.

8. If:
    - neck lump, follow Neck Lumps pathway.
    - thyroid lump, follow Thyroid Nodules pathway.

- salivary gland lump, see Salivary Gland Disorders information.

9. If no concerning radiological features, consider reassessment at 3 months after ultrasound. If clinical concern at reassessment, refer for urgent or routine orthopaedic referral.

10. Arrange general practitioner or local specialist follow-up if no radiological features suggesting malignancy, i.e. if lump is:
- superficial, mobile, and > 5 cm in diameter with uncertain diagnosis.
- < 5 cm diameter and uncertain whether deep to fascia (fixed).

11. If suspected benign lesions on hand (e.g. ganglion) or cosmetically sensitive area, refer for hand surgery assessment or urgent or routine plastic surgery referral.

12. If skin lesion, consider excision or punch biopsy.

13. If lipoma or epidermoid cyst, consider:
- excising the lesion under local anaesthetic (if confident).
- referring for general surgical assessment for excision.
- monitoring in general practice every 6 to 12 months. Advise the patient to promptly report any changes e.g. size, pain.

14. If a lump is not being further investigated or referred:
- advise the patient to promptly report any changes.
- reassess at 3 months if any concern.
- consider discussing with a general practitioner colleague for a second opinion.

Referral

- Refer for immediate orthopaedic referral or admission if ultrasound shows:
  - a mass deep to the muscular fascia or involving fascia
  - any mass that has vascularity
  - any concerning radiological features
- Arrange urgent Sarcoma Centre Specialist referral if:
  - suspected sarcoma.
  - recurring after a previous sarcoma excision.
- Refer urgently to gynaecological oncologist if any suggestions of malignancy in fibroids (leiomyosarcoma).
- Refer for urgent or routine orthopaedic referral if:
  - lump is:
    - deep to fascia (fixed)
    - painful
    - growing
    - firm (i.e. not clinically a lipoma)
    - recurring after a previous sarcoma excision.
  - clinical concern at reassessment.
- Arrange urgent or routine general surgery referral:

    - for *open biopsy* if a malignant lymph node is suspected but no concerns of sarcoma.
    - if there is known history of cancer (other than sarcoma) and metastatic node is suspected.
    - for excision if lipoma or epidermoid cyst.
- Refer for hand surgery assessment or urgent or routine plastic surgery referral if suspected benign lesions on hand (e.g. ganglion) or cosmetically sensitive area.

Information

For health professionals

Further information

- Cancer Council Australia – Cancer Guidelines Wiki: Clinical Practice Guidelines for the Management of Adult Onset Sarcoma
- Canterbury Initiative Education Session 29 July 2015 – Gordon Beadel - Soft Tissue Lumps [video, 21 minutes 38 seconds, password: educate]
- DermNet NZ – Lipoma and Liposarcoma

For patients

- Australia and New Zealand Sarcoma Association (ANZSA):
    - Contact
    - What is a Sarcoma?
- Cancer Council – Sarcoma (Bone and Soft Tissue Tumours)
- Cancer Council Victoria – Soft Tissue Cancers
- HealthInfo – Lipoma

References

1. Rouhani P., Fletcher C.D.M., Devesa S.S., Toro J.R. Cutaneous soft tissue sarcoma incidence patterns in the U.S.: An analysis of 12,114 cases. Cancer Cytopathology. 2008 Jul 07.

Disclaimer

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