BOFAS Evidence Based Commissioning guidelines

Ganglion Cyst of the foot and ankle

1. Introduction

- Benign and malignant tumours of the foot and ankle occur at a higher rate than is commonly thought. In a large series , 8% of benign and 5% of malignant soft tissue tumours occurred in the foot and ankle[1].

- Whilst most soft tissue tumours of the foot and ankle are benign, distinguishing them from malignancy can be difficult[4]. The usual features of a malignant tumour : depth, size and rapid growth may not apply to the foot because of its anatomy. In one series 13% were maligant[2].

- The ganglion cyst is the commonest soft tissue mass encountered in the foot and ankle (42%). They are found in around 6% of the population[3].

- Ganglion cysts are considered to be a mucoid cystic degeneration of a joint capsule or tendon sheath. They are usually found in areas of frequent physical stress and form a firm subcutaneous nodule that may spontaneously disappear[5].

- Often there is a prodrome of discomfort before the nodule appears. The nodule itself may cause pain if compressed e.g. in a shoe.

- Depending on location the ganglion cyst may cause nerve compression e.g. in the tarsal tunnel, with consequent nerve symptoms and signs[3,6].

- Diagnosis is by clinical examination including transillumination to establish the cystic nature of the ganglion.

- Treatment may involve no more than reassurance although aspiration/Injection can be employed successfully in about 50% of cases.

- Surgical resection is an option with lower recurrence rates at 11% as compared to 63% for conservatively treated ganglion cysts[7,8], although this has to be balanced against potential complications.

- The most important distinction is from a malignant soft tissue tumour, the most common of which is Synovial Sarcoma. Diagnosis is often delayed - 21 months in one series[9], and its occasionally indolent course closely mimics that of a ganglion. Epithelioid Sarcoma can also present as an innocuous nodule on the dorsum of the foot in young adults

2. Ganglion Cysts – High Value Clinical Pathways

2.1 Primary Care

- Diagnosis of a ganglion cyst is made on clinical examination including transilllumination.

- If cystic and asymptomatic reassurance is all that is needed. Over 50% will spontaneously resolve particularly in children

- If cystic and symptomatic aspiration will resolve many although recurrence rates of upto 63% are reported[7].

- If recurrence does occur repeat aspiration may be attempted but referral should be considered particularly if not straight forward.

- If the diagnosis of cystic nature is in doubt, referral to radiology for ultrasound is recommended. The lesion can then be aspirated/Injected under ultrasound control if appropriate or referred on to secondary care if solid[10].

- Solid lesions should be referred urgently. A solid lump should be considered malignant until proven otherwise. Approaching every mass in the foot and ankle as if it were a synovial sarcoma will result in few harmful diagnostic errors.

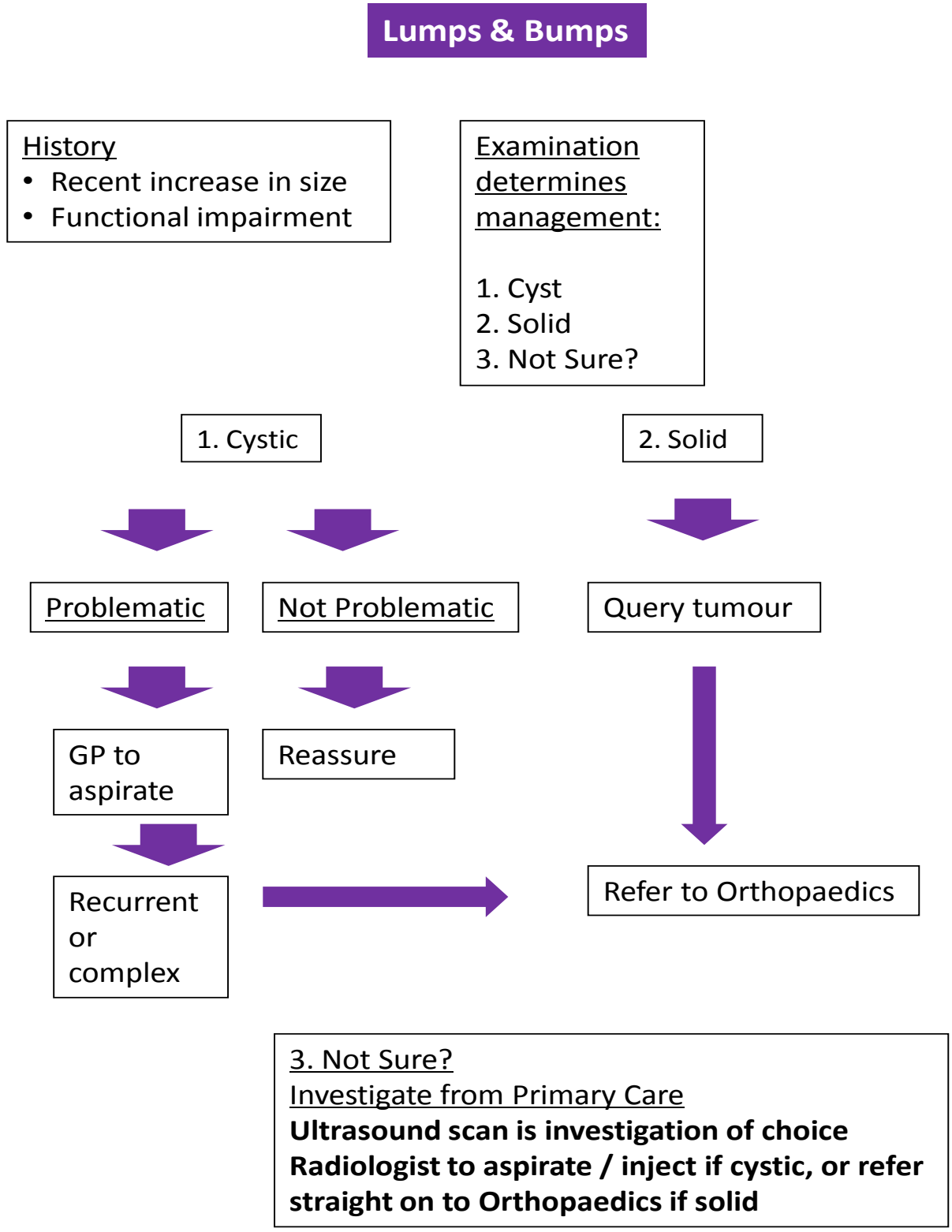
2.2 Secondary care

- Confirm the diagnosis of ganglion cyst. Consider for daycase (same day discharge) excision usually under regional/general anaesthetic. The ganglion cysts can often be more extensive than apparent.

- Solid or complex lesions should be further investigated with MRI[11]/ CT. Ultrasound is an accurate way to determine whether these lesions are cystic or solid but benign and malignant neoplasms cannot be differentiated unless there is direct infiltration of surrounding structures[12]. Onward referral to an appropriate Oncology service should be made on an urgent basis.

- Ganglion cysts causing nerve compression should be dealt with in an expedient manner.

Figure 1 suggested referral model



2.3 Research & Audit

- There is very little in the literature on scoring systems in relation to ganglion cysts.
- Over all patient satisfaction rates after surgery are reasonable at around 83%[13].
- The commonest scoring system used in the literature is the American Orthopaedic Foot & Ankle Society score (AOFAS).
- The Manchester-Oxford Foot & Ankle Questionnaire (MOXFQ) could also be used
- Quality of life scores could be used pre and post surgery e.g. EuroQuol(EQD5) or short form – SF36

2.4 Linked Metrics

- population prevalence/ need – GP Read Codes
- ICD 10 diagnosis codes
- OPCS codes for ganglion excision

2.5 Patient/Public/Clinician information

- Patient information – Patients must be counselled preoperatively regarding the risks and benefits of all surgical options and also the merits of non-operative management.
- GP guidance – Easily accessible information on the risks and benefits of surgical intervention needs to be made available.
- GP guidance – The need for referral if there is any doubt over the diagnosis.

3. Ganglion Cyst – The Evidence Base

- If the diagnosis is certain and the ganglion cyst asymptomatic then a conservative approach can be adopted.
- Up to 50% of ganglion cysts may resolve spontaneously.
- If causing symptoms or problems due to location (particularly a problem on the foot/ankle with shoes) then intervention may be considered.
- Aspiration can be successful but recurrence rates can be as high as 63%.
- Surgery results in high patient satisfaction rates in around 83% and higher if there is nerve compression involved with recurrence rates of around 11%.

BOFAS position on soft tissue swellings of foot and ankle:
Abnormal swellings of the foot and ankle need to be referred on an urgent basis for investigation. This should include an ultrasound scan performed by a Musculoskeletal Radiologist. Simple cystic swellings can be regarded as benign and treated symptomatically on a routine basis. Solid or complex swellings require further investigation and consideration of excision biopsy on an urgent basis.

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