Network recommendations for evaluation of patients with lymphadenopathy and suspected haematological malignancy; a strategy to reduce invasive investigations

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BACKGROUND

A review of GP Haematology two week wait referrals during the 1st quarter of 2014-2015 was undertaken at Pennine Acute NHS Trust at the request of Manchester Cancer Haematological-Oncology Pathway board. Pennine Acute NHS Trust provides services at British Committee for Standards in Haematology (BCSH) Level 2b serving a population 800,000-820,000. It was felt by the Pathway Board that audit data at Pennine, given the size of the Trust, would be representative of activity across the Network.

In brief all patient referred on a GP Haematology two week wait referral between 1st April 2014- 30th June 2014 were included (n=56). Diagnoses of patients referred on the two week wait pathway are shown below. Nine patients were diagnosed with a haematological malignancy (MDS, myeloma, lymphoma, chronic lymphoproliferative disorder), a conversion rate of 16%. There were 9 patients diagnosed with the 'borderline' condition MGUS.

Diagnosis	Frequency
MDS	1
Multiple Myeloma	1
MGUS	9
Reactive (lymphadenopathy/thrombocytosis etc.)	14
Iron/B12/Folate deficiency	4
Lymphoma	4
Chronic lymphoproliferative disorders	3
No diagnosis made (haematological diagnosis excluded)	11
Other	7
Failed to attend follow up/died	3

Of the 9 patients with a confirmed haematological malignancy only 6 of these required active treatment- 3 patients were commenced on a watch and wait policy.

The age of patients on the pathway also provided some interesting results tabled below- although patients aged < 50 years accounted for 50% of the referrals, documented malignancy was infrequent in this group (3 cases). These patients were however subject to CT scanning and lymph node biopsy as described below.

Age	n	Percentage of total (%)	Confirmed malignancy or borderline condition (MGUS)	Percentage with confirmed malignancy or borderline condition MGUS (%)
< 30 years of age	9	16	1	11
30-50 years	16	29	2	13
51-70 years	12	21	6	50
71 and over - years	19	34	9	47

There were 12 patients referred with lymphadenopathy- there were 2 cases of confirmed haematological malignancy, only 1 required active treatment. There were however 8 patients (66%) who had a lymph node biopsy undertaken at the request of the consultant haematologist – in almost 2/3rds (63%) of these cases reactive pathology only was documented. Five of these 8 patients were < 30 years and none had a malignancy demonstrated.

	n=8
No further treatment required	5 (63%)
Treatment - Watch and wait	1 (12%)
Treatment - Chemotherapy	2 (25%)

Similarly the use of CT scanning in younger patients was relatively overused considering the dose of radiation and the probability of a malignancy. CT had a much higher predictive value in the older patients.

Age	n=15	Percentage of total (%)	Confirmed malignancy	Percentage with confirmed malignancy (%)
< 30 years of age	4	27%	0	0%
30-50 years	5	33%	2	40%
51-70 years	3	20%	1	33%
71 and over - years	3	20%	2	66%

RECOMMENDATIONS

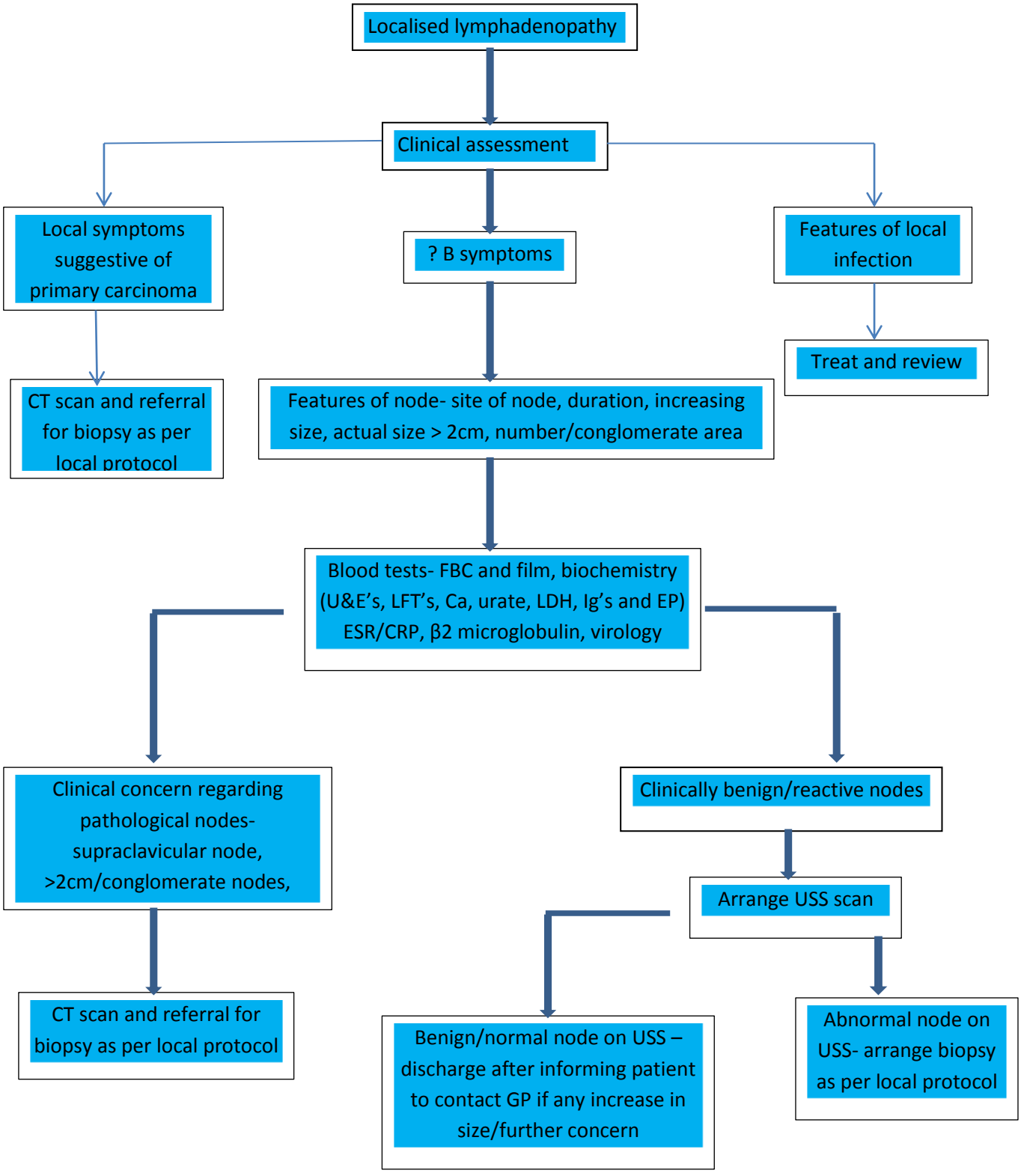
Based on this audit data the Haematological-Oncology Network Pathway Group recommends a review of local practice with the aim to adopt a diagnostic approach utilising less invasive investigations. This may be particularly appropriate in patients under 30 years if clinical suspicion is not high for malignancy. The data from our audit is supported in other studies. BMJ Best Practice report a study demonstrating 79% of biopsies performed on young patients (<30 years) were benign, 60% of biopsies performed on patients >50 were found to have a malignant aetiology, mainly carcinoma. In the primary care setting the reported prevalence of malignancy found during lymphadenopathy work-up is probably much lower.

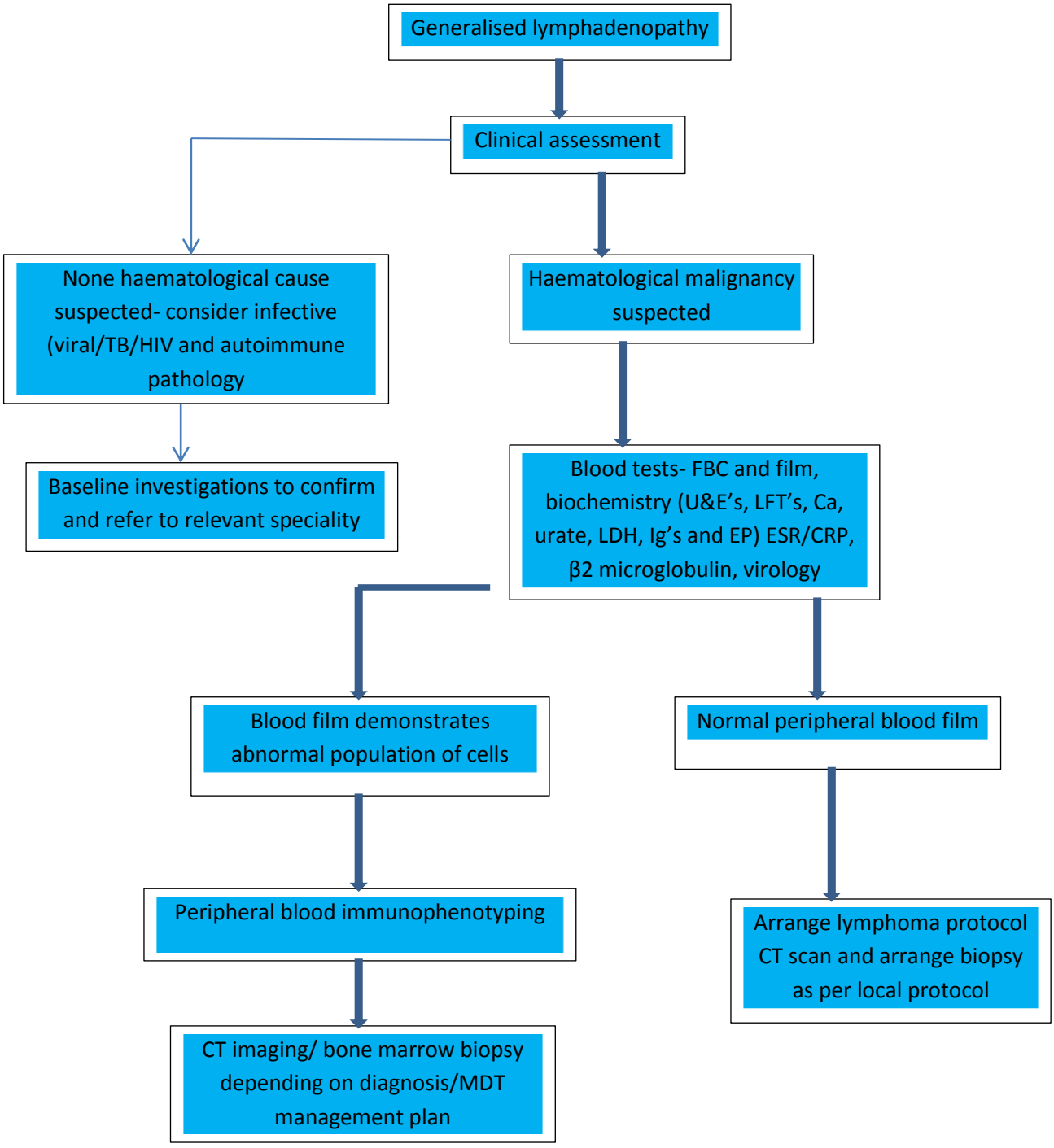
Although the decision regarding appropriate investigations resides with the individual assessing clinician we suggest that in patients with isolated small volume lymphadenopathy (excluding supraclavicular nodes which when enlarged are highly indicative of malignancy), with no B symptoms and no serological abnormalities to suggest an underlying malignant process (evidence of acute phase response when infection has been excluded) an USS of the area of concern can be used to assess the nodal area rather than CT imaging with its associated radiation dose or open biopsy with its risk of anaesthesia/bleeding/infection and scar formation.

USS value in detecting abnormal lymph node architecture is well defined (based on size, shape, presence or absence of hilum, echogenicity, margins, structural changes and vascularity). Grey scale sonography has a sensitivity of 95% and specificity of 83% in differentiating malignant and reactive nodes (Ajuha A et al 2003) and Doppler studies can improve diagnostic confidence. Lymph nodal excision or multiple core biopsy (which may be available at the time of initial scan in some one stop clinics) should be undertaken for those with suspicious features on USS whilst we suggest a more expectant and less invasive approach would be appropriate if USS also shows no concerning features.

Ajuha A, Ying M. Sonographic evaluation of cervical lymphadenopathy: is power Doppler sonography routinely indicated?. Ultrasound Med boil 2003; 29:353:359.

Suggested pathways for investigation of localised and generalised lymphadenopathy




Generalised lymphadenopathy
Clinical assessment
None haematological cause suspected- consider infective (viral/TB/HIV and autoimmune pathology
Baseline investigations to confirm and refer to relevant speciality
Haematological malignancy suspected
Blood tests- FBC and film, biochemistry (U&E's, LFT's, Ca, urate, LDH, Ig's and EP) ESR/CRP, β2 microglobulin, virology
Blood film demonstrates abnormal population of cells
Peripheral blood immunophenotyping
CT imaging/ bone marrow biopsy depending on diagnosis/MDT management plan
Normal peripheral blood film
Arrange lymphoma protocol CT scan and arrange biopsy as per local protocol