What is the differential diagnosis for isolated lymphadenopathy in children?

Evidence-Based Answer

Most isolated lymphadenopathy (LAD) in children is the result of either a reactive LAD or an acute lymphadenitis secondary to infection. In patients referred for persistent LAD, malignancy rates range from 5% to 24% of cases. Acute isolated LAD is rarely malignant; approximately 70% of malignant cases present with generalized LAD (SOR: B, retrospective studies).

The differential diagnosis for lymphadenopathy (LAD) in children depends, in part, on the site of involvement (TABLE).

A retrospective study (n=106) of patients 21 years or younger, of whom only 25 were <10 years old, assessed the role of fine-needle aspiration in the evaluation of palpable LAD. Patients had no previous history of malignancy, but the duration of adenopathy was not reported. Ninety-four fine-needle aspirations were from the head and neck region and the remainder from other sites. Sixty-four percent were diagnosed with reactive LAD, 11% with acute lymphadenitis, 9% with granulomatous/necrotizing LAD, and 5% were malignant.

A retrospective study of 457 patients (age range 2 months to 19 years) referred to a pediatric oncology department from 1996 to 2004 was undertaken to determine the etiology of acute (<4 weeks in duration; 218 patients) and persistent peripheral LAD (> 4 weeks in duration; 239 patients). Lymph nodes larger than 10 mm were generally considered abnormal, with the exception of 1–2 mm at the supraclavicular region, 5 mm at the preauricular region, and 15 mm at the inguinal region. Excisional biopsy was completed on 134 (29%) patients after extensive laboratory and imaging evaluation failed to identify an etiology. Lymph node biopsy was benign in 76% of patients and malignant in 24%. Acute LAD (<4 weeks in duration) represented 4% of malignancy cases compared with 96% from chronic LAD. Localized LAD was less likely to be malignant than generalized LAD (29% vs 71%; P=.001). Cervical and supraclavicular LAD were the most common sites for malignancy. A specific etiology was found in 39% of patients in the benign group; infectious mononucleosis and acute lymphadenitis were the most frequent diagnoses.

In a prospective cohort study, 98 patients referred to a pediatric oncology clinic were evaluated for LAD (duration of LAD not specified). The 3 most common sites were cervical, submandibular, and axillary. Eighty-two percent of patients had localized or limited lymph node involvement. Lymph node biopsy was performed in 38 cases after evaluation failed to establish a diagnosis or malignancy was suspected. Overall, 77% of patients (75 of 98) had benign disease. Reactive LAD from local or systemic infection (toxoplasmosis, cytomegalovirus, and mononucleosis) represented 60% of benign cases and lymphadenitis were the most common sites for malignancy. A specific etiology was found in 39% of benign cases.

An American Academy of Pediatrics consensus opinion recommends additional diagnostic evaluation for LAD larger than 2 cm; enlarged hard, firm, or matted lymph nodes; no associated infectious symptoms; lack of improvement over 4 weeks; or location in specific anatomic sites.

### TABLE

<table>
<thead>
<tr>
<th>Site</th>
<th>Differential diagnosis</th>
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<tbody>
<tr>
<td>Preauricular</td>
<td>Scalp infection, mycobacterium, malignancy, lymphoma</td>
</tr>
<tr>
<td>Cervical (submandibular, anterior, posterior)</td>
<td>More common: Upper respiratory viral/bacterial infections, mononucleosis, mycobacterium, toxoplasma, cytomegalovirus</td>
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<tr>
<td>Supraclavicular</td>
<td>Neoplasm, lymphoma, mycobacterium</td>
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<tr>
<td>Axillary</td>
<td>More common: Bacterial infection, cat-scratch disease</td>
</tr>
<tr>
<td>Epitrochlear</td>
<td>Bacterial infection, cat-scratch disease, leukemia, lymphoma, mycobacterium</td>
</tr>
<tr>
<td>Inguinal</td>
<td>Bacterial infection, sexually transmitted infection, lymphoma</td>
</tr>
<tr>
<td>Specific to site of inoculation</td>
<td>Venomous snake bite, tularemia, filariasis, plague, leishmaniasis, cat-scratch disease</td>
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the supraclavicular region. A complete blood count, erythrocyte sedimentation rate, and chest x-ray can be useful to screen patients who should be referred for biopsy to rule out malignancy.

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The views expressed herein are those of the authors and do not reflect the official policy of the Department of the Army, Department of Defense, or the U.S. Government.


Is there an association between vasectomy and the later risk of prostate cancer?

Evidence-Based Answer  
Currently, the best evidence does not support an association between having a vasectomy and developing prostate cancer (SOR: B, cohort and case-control studies).

A meta-analysis pooled data from 5 cohort studies and 17 case-control studies between 1966 and 2001 and examined the risk of prostate cancer in patients with vasectomies. In all, the studies compared 9,825 men with prostate cancer with more than 200,000 controls. In comparing the prevalence of vasectomy between the 2 groups, the analysis found an association between vasectomy and prostate cancer (RR 1.4; 95% CI, 1.2–1.6). When the data were sorted by methodological groups, the 8 hospital-based case-control studies with 3,652 prostate cancer patients compared with 11,496 controls found the strongest association (RR 1.9; 95% CI, 1.4–2.7). In contrast, the 5 cohort studies, with 702 prostate cancer patients and 206,894 controls, and the 9 population-based case-control studies, with 5,471 prostate cancer patients and 6,189 controls, showed no differences (RR 1.2; 95% CI, 0.90–1.6 and RR 1.1; 95% CI, 0.93–1.3, respectively). The authors thought the results should be interpreted with caution because of large heterogeneity in the studies and screening bias. Since the review, 3 more studies have been published. A retrospective cohort study in the United Kingdom analyzed hospital records for 24,773 men who had vasectomies between the ages of 20 and 59 years.

The authors collected admission data from National Health Service hospitals in the United Kingdom. They compared men who were admitted for vasectomies and those admitted for various other surgeries and were able to follow them through subsequent hospital records. When compared with age-matched controls, men who had undergone vasectomy had no overall increased risk for developing prostate cancer (RR 0.74; 95% CI, 0.45–1.1).

A population-based case-control study identified 1,001 men diagnosed with prostate cancer. They were compared with 942 controls obtained from census data regarding incidence of vasectomy and time since the surgery. The prevalence of prior vasectomy was no different between the cases and the controls (OR 1.0; 95% CI, 0.8–1.2).

Another population-based case-control study from New Zealand reviewed 923 new cases of prostate cancer among men aged 40 to 74 and compared them with 1,224 controls. Case subjects were identified from the National Cancer Registry of New Zealand and compared with matched controls obtained from the country’s electoral records. There was no difference in the rate of prostate cancer in men who had undergone vasectomy compared with men who had not (OR 0.92; 95% CI, 0.75–1.1).

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Is oral spironolactone effective for acne in women?

Evidence-Based Answer  
Spironolactone is mentioned as a treatment option for acne in women in current dermatological guidelines (SOR: C, expert opinion), although a systematic review found the evidence insufficient to confirm a benefit.

A recent Cochrane review concluded there was no evidence that spironolactone is effective in treating acne in female patients. The review found one acceptable clinical trial addressing spironolactone for treatment