Mesenteric Lymphadenitis in patients with recurrent abdominal pain

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Purpose

- Incidence of recurrent pain abdomen (RPA) is 10-12% in the developed countries and a slightly higher incidence has been reported in the developing countries. J Apley (a british pediatrician) defined RPA as 'at least three episodes of abdominal pain severe enough to affect their activities over a period longer than three months [1].
- An organic cause has been found only in 5-10% of patients [2].
- Mesenteric lymphadenitis is seen as enlarged lymphnodes on USG. These can be either primary or secondary. It can have nonspecific presentation including abdominal pain, fever, and leukocytosis and can mimick appendicitis, infectious enterocolitis, diverticulitis, etc [3].
- Enlarged mesenteric lymphnodes are seen not only in patients with RPA, but also in asymptomatic children. This is a study from the Indian subcontinent which tries to establish a relationship between the two.

Methods and Materials

- Prospective study.
- Study group: 300 consecutive children (period of 02 months).
- Ultrasound (USG) equipment: equipment with linear 5-13 MHz and convex 2-6 MHz transducers.
- Short axis diameter of the largest lymphnode, clusters, complaints, etc were registered.
- These patients were divided into three groups. -Group 1 consisted of all patients with nonspecific recurrent abdominal pain of more than or equal to 3 months. -Group 2 consisted of all patients with recurrent or non-recurrent abdominal pain of less than 3 months, while -Group 3 consisted of all patients referred for elective studies for various reasons.
- Age range: new born - 18 years of age.
- Artifact due to overlying bowel gas in 03 patients.
- 63 patients were excluded from the study because the primary complaint was not abdominal pain and could have caused bias.

Results

- No LNs in 15/237 patients (6.3%) (including 01 male patient with RAP & 03 patients with artifacts due to overlying bowel gas.)
• The age range of the 222 patients studied: new born to 18 years (mean 6.5 years). Male: female 138: 84.

• **GROUP I**: 52 (52/300 or 17.33%) patients. Age range 3-14 years (mean 9.43; male: female, 28:22). Additional complaints: fever off and on; 06, vomiting off and on; 05. Additional findings: Para-aortic lymph nodes; 02, were left sided pleural effusion; 01.

• **GROUP II**: 43 patients (43/300 or 14.33%) patients. Age range 6 mon-13 years (mean 7.28; male: female, 22:21). 05 patients with excessive crying were also included in this group. Additional complaints: Fever; 09, cough; 04. Additional findings: Dilated bowel loops with minimal ascites and periaortic lymph nodes were seen; 03 patients, only periaortic lymph node; 02 patients, appendicitis; 01, intussusception; 01.

• **GROUP III**: 112 patients (112/300 or 27.33%) patients. Age range new born-16 years (mean 15.57; male: female, 73:29). Complaints: dribbling of urine; 06, hypospadias/epispadias; 04, seizure disorder; 01, undescended testis; 04, chordeae; 01, pelvi-ureteric junction (PUJ) obstruction; 06, meningocele; 02, renal calculus; 04, umbilical sinus; 02, operated cases of anorectal malformation (ARM); 01, essential hypertension; 01, follow-up case of appendicitis; 01, hernia; 05, vomiting; 01, bilateral congenital dislocation of hip joint; 01, right renal mass; 01, constipation; 03, non-inflammatory swelling head and neck region; 05, renal failure; 03, hematuria; 01, retarded growth; 01, gynaecomastia; 01, shunt block; 02, operated case of mullerian agenesis; 01, big head size/hydrocephalus; 04, gross anemia; 01, non-inflammatory swelling left thigh; 01, vertigo; 01, renal contusion; 02, scrotal trauma; 01, cysticercosis knee; 01, portal hypertension; 01, vague body pain; 01, non-inflammatory swelling in the region of sternum; 01, operated case of gall bladder ascariasis; 01, phimosis; 01, pain neck; 01, cleft lip; 01, asymptomatic siblings; 036.

• Enlarged mesenteric lymph nodes greater than 5 mm: 38.46% of group 1 patients; 41.86% of group 2 patients, and 33.92% of group 3 patients.

• A significant statistical difference was found between patients with abdominal pain and asymptomatic children only for lymph nodes of 10 mm and larger (p =.004).

• No statistically significant difference was seen in the presence of lymph node clusters.

• No statistical difference was found between various age groups and between the two genders.

<table>
<thead>
<tr>
<th></th>
<th>0-4 mm</th>
<th>#5-9 mm</th>
<th>#10 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPA (n=52)</td>
<td>32 (61.53%)</td>
<td>14 (26.92%)</td>
<td>6 (11.53%)</td>
</tr>
</tbody>
</table>
### Distribution of Short axis diameter (in mm) of largest lymphnode in the three groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute pain (n=43)</td>
<td>25(58.13%)</td>
<td>12(27.90%)</td>
</tr>
<tr>
<td>control (n=112)</td>
<td>74(66.07%)</td>
<td>38(33.92%)</td>
</tr>
</tbody>
</table>

*Images for this section:*
Fig. 1: Lymphnode Cluster
Conclusion

- The Incidence of enlarged mesenteric lymphnodes is higher in the Indian subcontinent as compared to the developed countries.
- These are also found in older children with higher frequency.
- Those exceeding 10 mm in their shortest axis in children with abdominal pain may represent mesenteric lymphadenitis of various causes.

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References

2. Weydert JA, Ball TM, Davis MF. Systematic Review of Treatments for Recurrent Abdominal Pain. Peditrics 2003;111:e1