



MESENTERIC LYMPHADENITIS A REVIEW

General Surgery

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ABSTRACT

Mesenteric adenitis is a syndrome characterized by right lower quadrant pain secondary to an inflammatory condition of mesenteric lymph nodes. The signs and symptoms of Mesenteric lymphadenitis are similar to acute appendicitis. Surgeon may operate upon such cases which apparently give a sign-symptom complex of acute appendicitis, and will find at operation a normal appendix but with enlargement of the mesenteric lymph nodes, most especially those nodes distributed about the terminal ileum and the appendiceal junction. Individuals with mesenteric adenitis or ileocecalitis often present with a history of fever and abdominal pain, often localizing to the right lower quadrant. The illness needs to be differentiated from appendicitis, intraabdominal abscess formation, and diverticulitis. The patient recovers, and recovery is attributed to the appendectomy. Can one evaluate these cases to such a degree that in many cases surgical procedures are unnecessary? And is one able to define a sign-symptom complex which might very well encompass the diagnosis of primary acute mesenteric adenitis? Or are the symptoms and signs so bizarre. **Aims And Objective Of Review:** To know the aetiology, clinical presentation, diagnostic criteria and management of primary acute mesenteric adenitis

KEYWORDS

INTRODUCTION

Mesenteric adenitis is a syndrome characterized by right lower quadrant pain secondary to an inflammatory condition of mesenteric lymph nodes. Mesenteric lymphadenitis is common in children and teenagers. It usually doesn't occur in adults or people over 20 years old. The clinical presentation of sudden onset right lower quadrant abdominal pain is similar to that of appendicitis and has classically been mistaken for it.

Achieving the correct diagnosis in these patients is vitally important and can help avoid unnecessary surgery. It is important to take a detailed history and physical exam and be vigilant when evaluating for possible appendicitis and confirm on diagnostic imaging whether or not the appendix is well visualized and if it appears abnormal. An incorrect diagnosis can lead to unnecessary invasive interventions to the patients with subsequent morbidities.

Symptoms and signs of mesenteric lymphadenitis

- Symptoms of mesenteric lymphadenitis range in severity. Symptoms of mesenteric lymphadenitis are similar to appendicitis and could include:
 - Pain in the abdomen, often on the lower right side of the belly.
 - Tenderness in the abdomen.
 - Fever.
 - Nausea and/or vomiting.
 - Diarrhea.
- Enlarged lymph nodes in the abdomen may cause pain. An infection in the intestinal tract can cause symptoms of diarrhea and nausea.
- Mesenteric adenitis is not normally dangerous, but having swollen lymph nodes for a long time can be a sign of something more serious.
- If the glands are swollen due to a severe bacterial infection, and it is not treated, it can spread to the bloodstream, and this can lead to sepsis. Sepsis is an infection of the blood and is life-threatening.
- Symptoms of mesenteric adenitis can be confused with those of an ectopic pregnancy, as well as of appendicitis. If a woman has symptoms and she could be pregnant, she should seek medical help at once.

Aetiology of mesenteric lymphadenitis

Mesenteric adenitis can be seen with *Y. enterocolitica* and *Y. pseudotuberculosis*; *Y. enterocolitica* can also cause enterocolitis and terminal ileitis. These infections are more commonly reported from Europe than the United States. Ingestion of undercooked or uncooked pork and pork-related products, such as the small intestine of pigs (chitterlings), are particular risk factors. Septicemia can complicate intestinal yersiniosis, especially in individuals with iron-overloaded

states, immune deficiencies, cirrhosis, and alcoholism. Mesenteric adenitis can also be caused by tuberculosis, and *Mycobacterium avium* complex infection in individuals with AIDS, especially in individuals who are becoming immune reconstituted. Children with HIV in Southeast Asia may present with mesenteric adenitis caused by *Talaromyces (Penicillium) marneffei*. Epstein-Barr virus, parvovirus B19, and adenovirus infection may also be associated with mesenteric adenitis. An infection by a virus or bacteria usually causes mesenteric lymphadenitis. Infections that could cause mesenteric lymphadenitis include:

- Gastroenteritis (sometimes called the stomach flu).
- Bacteria found in undercooked meat (*Yersinia enterocolitica*).
- Infection related to HIV
- Inflammatory conditions
- Appendicitis.
- Cancers (lymphoma, gastrointestinal cancer).
- Diverticulitis.
- Tuberculosis
- Inflammatory bowel disease.
- Pancreatitis.

Histoplasmosis, and amebiasis complicated by an inflammatory mass (an ameboma), intestinal schistosomiasis complicated by an inflammatory mass (a bilharzioma), an intestinal actinomycetoma that may include drainage fistula tracks, and intestinal angiostrongyliasis ("Fever, Abdominal Pain, and Peripheral Eosinophilia"). Disease of lymph nodes of the mesentery of the intestine develops more often in infants, occurs with signs of intoxication and characteristic pain of the abdominal zone. The reasons for the appearance of pathology can be many:

- viruses of acute respiratory processes (adeno-/ enteroviruses);
- cytomegalovirus;
- The causative agent of tuberculosis;
- Intestinal infections (*Campylobacter*, *Salmonella*, etc.);
- staphylo- and streptococci;
- The Epstein-Barr virus.
- *E coli*,

Primary mesenteric adenitis occurs when the lymphadenopathy is the result of an unidentifiable inflammatory process.

Secondary mesenteric adenitis occurs secondary to an intra-abdominal inflammatory process with a known source or etiology.

Pathophysiology

Primary mesenteric adenitis is most common lymphadenopathy in the mesentery near the terminal ileum without a discoverable underlying cause for the inflammation.[1] Mesenteric adenitis also presents

secondary to bacterial or viral gastroenteritis. The pathophysiology for such infection to occur takes place as follows: The bacteria/virus is ingested orally and able to enter the body's bloodstream via invasion through the intestinal epithelium. The organism then localizes to the nodal lymph tissue of the body surrounding intestinal mucosa; this commonly occurs in Peyer's patches. From there, the organism can spread regionally through lymphatic pathways to mesenteric lymph nodes resulting in mesenteric adenitis.

Diagnosis of Mesenteric Lymphadenitis

Evaluation

Lab Tests---complete blood count, C-reactive protein (CRP), and urine analysis. The WBC and CRP will generally be elevated, but the diagnosis cannot be ruled out even if they are within normal limits. The urinalysis is helpful to rule out a urinary tract infection. However, these laboratory studies will not help the clinician delineate between diagnoses of appendicitis, intussusception, or mesenteric adenitis. The organism can be identified by PCR. Interestingly, *Yersinia* DNA has been detected in mesenteric lymph nodes in patients with Crohn disease.

Imaging

Abdominal ultrasonography is the gold standard for the diagnosis of mesenteric adenitis. Ultrasound that shows enlarged, hypoechoic mesenteric lymph nodes and the absence of a thickened blind-ending tubular structure (inflamed appendix) is diagnostic of mesenteric adenitis. The current radiological definition defines mesenteric adenitis as at least one abnormally enlarged lymph node measuring 8 mm or more in its short-axis diameter.

Superb microvascular imaging Doppler ultrasound has proven to show low-velocity blood flow with better image resolution when compared to color Doppler flow imaging. It has demonstrated increased sensitivity and specificity in diagnosis of mesenteric lymphadenitis. Management of mesenteric lymphadenitis

A diagnosis of mesenteric adenitis is self-limiting and requires no treatment. Hence, the first step in management is to rule out the diagnoses, which require surgical intervention. After establishing the diagnosis of mesenteric adenitis, the treatment is as follows: supportive care with IV hydration and pain control with nonsteroidal anti-inflammatory medications.

For moderate to severe bacterial infections antibiotic should be given. Rest, Prevention of dehydration, especially after vomiting and diarrhoea by drinking plenty of fluids.

Differential Diagnosis

The differential diagnosis includes appendicitis, intussusception, ovarian cyst rupture, ovarian abscess, ectopic pregnancy, endometriosis, ovarian torsion, testicular torsion, epididymitis, pelvic inflammatory disease, mesenteric ischemia, chronic abdominal pain, inflammatory bowel diseases such as Crohn's or ulcerative colitis, systemic lupus erythematosus, malignancy, HIV, zoonotic infections, infectious mononucleosis, and tuberculosis.

Prognosis

The pain typically resolves within four weeks without sequelae. Patient should be kept in follow up. There are no complications associated with mesenteric adenitis as it resolves without intervention.

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