International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

A Case Mimicking both Acute Appendicitis and Pyelonephritis

Dr. K. Venkatesan, Dr. Aravind

[1]Professor, Department of General Surgery, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry, India

[2]Post Graduate, Department of General Surgery, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry, India

Abstract: ***Acute appendicitis is one of the most common acute abdominal emergencies whereas acute pyelonephritis is also an similar entity which usually present like the same. Both the conditions usually present with symptoms and signs which are common like lower abdomen pain, fever and vomiting. Even though there are a quite few differential diagnosis for the above clinical condition here we discuss about an interesting case which had a diagnostic dilemma mimicking both pyelonephritis and appendicitis.***

Keywords: Acute appendicitis, pyelonephritis, diagnostic dilemma, abdominal pain, differential diagnosis

1. Introduction

Acute appendicitis is the inflammation and infection of the appendix. It may or may not be a surgical emergency depending upon the grade and severity of presentation. Acute pyelonephritis is the inflammation and infection of the kidney. It is a condition more common in females and is usually self-limiting if treated early with appropriate antibiotics

2. Case Presentation

A 5-year-old female child was brought to the emergency room with complaints of lower abdomen pain and fever since 2 days. She also has history of vomiting for two days (3-4 episodes per day with contents as food particles). On arrival her temperature was 101°F while her pulse rate was 154 beats per minute. Per abdominal examination revealed tenderness in the right iliac fossa, right lumbar and umbilical region. Following which laboratory and radiological investigations were done which revealed a wbc count of 27,000 and neutrophils of 68% which is proportional to a ALVARADO SCORE of 7. Her urine routine report showed pus cells of 22-24 . Following which ultrasound abdomen was done which showed features of inflamed appendix of 6.2mm (suggestive of acute appendicitis) and free-floating echoes in bladder with thickening of bladder wall. Urine was sent for culture and sensitivity and the child was started on iv antibiotics and observed. The following day child continued to have fever and was found tachycardic. Hence child was planned for emergency open appendectomy which showed an oedematous appendix with a inflammation at the base of appendix(fig1.0). Following which she was continued with iv antibiotics .Urine culture report showed ecoli with a repeat urine routine showing 10-14 pus cells .Post operative period was uneventful and child improved symptomatically with no complaints of fever or abdominal pain and with a stable vitals at the time of discharge.

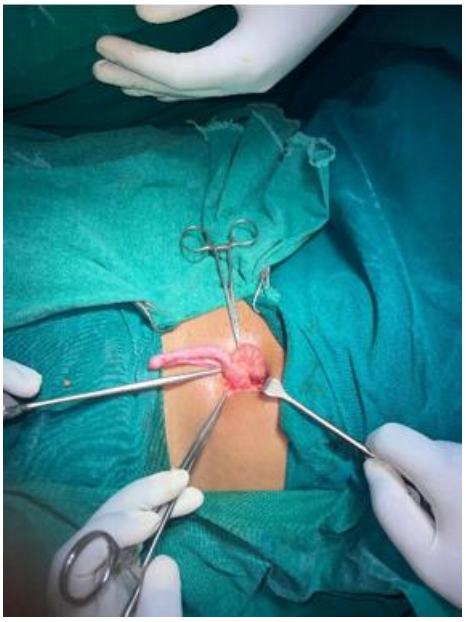

Figure 1

Alvarado score	Score
Leukocytosis >10.000/mm³	2
Tenderness in right lower quadrant	2
Migration of pain	1
Rebound pain	1
Elevated temperature (>37.3°C)	1
Nausea	1
Anorexia	1
Neutrophilia >65%	1
Total	10

Scores: 1–4: Discharge 30% appendicitis; 5–7: Monitoring/admission 66% appendicitis; 8–10: Surgery 93% appendicitis.

Figure 2

3. Discussion

Acute pyelonephritis

It is a condition causing infection and inflammation of the kidney. The risk factors being female sex, UTI, obstruction of the flow, diabetes. The most common organism causing it is ECOLI. The condition usually present with lower abdomen

or flank pain, burning micturation, fever and vomiting. Urine routine and culture , ultrasound of the kidney and urinary bladder usually helps us in diagnosis of this condition .It is usually resolves with antibiotics and analgesics.

Acute appendicitis

It is also a condition causing infections and inflammation of the appendix. Mostly it is seen in extremes of age, immunosuppression, faecolith obstruction. Patients typically present with lower abdomen pain typically in right iliac fossa with vomiting and fever. An elevated wbc count and a neutrophil shift to left is a diagnostic criterion in laboratory investigation while a usg or ct showing inflammation of the appendix is definitive. If appropriate management not done in time it may lead to abcess or mass formation and in cases even perforation leading to peritonitis. Appendectomy is done in moderate to severe case while mild cases can be managed with antibiotics and analgesics. It is important to differentiate the diseases since both appendicitis and pyelonephritis manifest themselves with flank pain and abdominal pain. But in our case the patient had pyelonephritis with a co-existing appendicitis. Since both the cases present similarly it is always advised to do a thorough clinical, laboratory and radiological investigation has in our case before proceeding with treatment because neither one can't be missed which in turn can be fatal and life threatening. So in our case has the patient had a ALVARADO SCORE of 7 (fig2.0) it was ideal to proceed with surgery while pyelonephritis was treated at the same time with proper antibiotics .Further in cases were a diagnostic difficulty is there one can even proceed with further radiological investigations like a CT or MRI or even a diagnostic laparoscopy to confirm the diagnosis.

4. Conclusion

Acute pyelonephritis and acute appendicitis are conditions that which usually present with common symptoms at the time of admission. Developmental anomalies and topographic variations of appendix and the genito-urinary system may lead to confusion of these two conditions. So based on our case we can come to a conclusion that both the cases can co exist together which is not always a must, but it can at circumstances posing a diagnostic difficulty.

References

[1] Bickler, S. W., & Dharmarajan, S. (2006). Pediatric appendicitis: A review of clinical presentation and management. Journal of Pediatric Surgery, 41(6), 1013-1018. https://doi.org/10.1016/j.jpedsurg.2006.02.018
[2] Acute Pyelonephritis in Children: Subramanian, P. S., & Hellerstein, S. (2015). Acute pyelonephritis in children: A review of the literature. Pediatric Nephrology, 30(9), 1513-1523. https://doi.org/10.1007/s00467-015-3133-6
[3] Differential Diagnosis: Nuzum, T., & O'Donovan, J. (2018). Diagnostic challenges in acute abdominal pain in children: Appendicitis versus pyelonephritis. Journal of Emergency Medicine, 55(4), 468-473. https://doi.org/10.1016/j.jemermed.2018.07.030
[4] Clinical Guidelines: Humes, D. J., & Simpson, J. (2006). Acute appendicitis. BMJ, 333(7567), 530-534. https://doi.org/10.1136/bmj.38940.664663.55
[5] Management Strategies: Gaitanis, J., & Lymperopoulos, A. (2019). The role of imaging in the diagnosis of acute appendicitis: A review. European Journal of Radiology, 113, 42-49. https://doi.org/10.1016/j.ejrad.2019.02.015
[6] Appendicitis in Children: Deans, K. J., & Lally, K. P. (2015). Pediatric appendicitis: An evidence-based approach. Journal of Pediatric Surgery, 50(5), 877-883. https://doi.org/10.1016/j.jpedsurg.2015.01.034
[7] Acute Pyelonephritis Diagnosis: Naylor, J. R., & Hanzlik, J. (2020). Acute pyelonephritis in children: Diagnostic challenges and management strategies. Pediatric Clinics of North America, 67(6), 1107-1122. https://doi.org/10.1016/j.pcl.2020.07.002