IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 24, Issue 7 Ser.2 (July 2025), PP 22-23
www.iosrjournals.org

A Correlation of Different Anatomical Positions of Appendix with Clinical Findings and Intra-Operative Findings: A Cross-Sectional Study

Dr. Divyakant Harshukhbhai Barot
Department of General Surgery,GCS Medical college Hospital and research center, Ahmedabad , Gujarat, India

Zeel Dineshkumar Patel
Department of General Surgery, Gujarat Adani Institute of Medical Sciences, Bhuj, Gujarat , India

Date of Submission: 25-06-2025 Date of Acceptance: 05-07-2025

I. Introduction

Acute appendicitis remains the most common cause of emergency abdominal surgery. Despite its relatively straightforward treatment, the diagnosis can often be challenging due to anatomical variations in the position of the vermiform appendix. These variations can result in atypical clinical presentations, potentially delaying diagnosis and increasing morbidity. This study was designed to correlate the anatomical positions of the appendix with clinical presentation and intra-operative findings to improve diagnostic accuracy.

II. Aims and Objectives

Aim:
To assess the correlation between different anatomical positions of the appendix with corresponding clinical signs and intra-operative findings.

Objectives:
- To evaluate the frequency of various anatomical positions of appendix.
- To observe variations in clinical presentation associated with each position.
- To analyze intraoperative findings and postoperative complications related to appendicular position.

III. Methodology

Study Design: Cross-sectional observational study
Duration: April 2022 – March 2024
Setting: Department of General Surgery, Gcs Medical college hospital and research center.
Sample Size: 80 histopathologically confirmed cases of acute appendicitis

Inclusion Criteria:
- Patients presenting with signs and symptoms suggestive of acute appendicitis
- Patients operated with histopathologically confirmed diagnosis

Exclusion Criteria:
- Patients with negative appendectomy (non-inflamed appendix)
- Chronic appendicitis cases

Method:
Detailed history and clinical examination were recorded. Diagnosis was supported by ultrasound and confirmed intra-operatively. The anatomical position of appendix was recorded during surgery. Postoperative histopathology confirmed diagnosis.

IV. Results

1. Age Distribution:
- Most common in age group 18–27 years (41%)

- Mean age: ~28.4 years

2. Sex Distribution:
- Male: 59%
- Female: 41%

3. Frequency of Anatomical Positions:
- Retrocecal: 41.25%
- Pelvic: 26.25%
- Subcaecal: 10%
- Postileal: 8.75%
- Preileal: 6.25%
- Paracaecal: 5%
- Others: 2.5%

4. Clinical Symptoms Correlated to Position:
- Retrocecal: Lower incidence of rebound tenderness and vomiting; delayed diagnosis.
- Pelvic: High urinary symptoms and tenesmus.
- Pre/Post ileal: Mimicked gastroenteritis or lower abdominal pain.
- Paracaecal/Subcaecal: Often classical presentation.

5. Diagnostic Signs:
- McBurney's point tenderness: Seen in 70% of cases.
- Psoas sign: Prominent in retrocecal appendix.
- Obturator sign: Common in pelvic appendix.

6. Complications:
- Retrocecal: Delayed diagnosis, abscess formation.
- Pelvic: Localized abscess.
- Postileal: Early perforation.

V. Discussion

This study confirms the significant role of appendix position in influencing clinical presentation. Retrocecal position was the most frequent (41.25%)—aligned with previous studies by Wakeley and Collins. However, atypical presentations in pelvic and postileal positions posed diagnostic dilemmas.

This highlights the importance of maintaining a high index of suspicion, particularly when classical signs are absent. Incorporating radiological adjuncts like ultrasound or CT can aid in such atypical cases.

VI. Conclusion

- Retrocecal was the most common appendix position.
- Clinical features vary significantly with anatomical location.
- Atypical positions may lead to delayed diagnosis and higher complication rates.
- Understanding anatomical variation is essential for timely intervention and improved outcomes.

VII. Recommendations

- Surgeons should consider anatomical variations in differential diagnosis.
- Imaging tools like ultrasound and CT should be used liberally in atypical presentations.
- Clinical education should emphasize variability in signs of appendicitis.

References

[1]. Wakeley CPG. The position of the vermiform appendix. J Anat. 1933;67:277–283.
[2]. Collins DC. The length and position of the vermiform appendix. Ann Surg. 1932;96:1044–1048.
[3]. Paulson EK, Kaleya RN. Appendicitis: Clinical evaluation and CT correlation. Radiology. 1998.
[4]. O'Connell PR. The vermiform appendix. In: Bailey and Love's Short Practice of Surgery.
[5]. Maingot's Abdominal Operations, 11th Ed., McGraw Hill.
[6]. Hardin DM. Acute appendicitis: review and update. American Family Physician. 1999.
[7]. Denjalic A, et al. Anatomical variations of the appendix. Med Arch. 2009.