

Clinical Diagnosis Superiority in Appendicitis Cases: An Integrative Analysis with Ultrasound Findings and Complete Hemogram

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Abstract:-

➤ Aim:

This study aims to evaluate the diagnostic effectiveness of clinical diagnosis compared to ultrasound findings and elevated total count in identifying acute appendicitis.

➤ Methods:

A cross-sectional study was conducted over three months with 30 patients aged 10-60 years presenting to the General Surgery OPD/ER. The patients were evaluated using clinical diagnosis, ultrasound, and complete hemogram. Clinical findings included McBurney's tenderness, Blumberg sign, and lateral wall tenderness on Digital Rectal Examination. Data on ultrasound findings and total leukocyte count were collected and analyzed.

➤ Results:

Clinical diagnosis accurately identified acute appendicitis in all 30 cases. Ultrasound confirmed appendicitis in 18 cases (60%), while elevated total leukocyte count was observed in 20 cases (66.6%). When combining clinical evaluation, ultrasound, and hemogram data, a comprehensive diagnosis was achieved in 13 cases (43.4%).

➤ Conclusion:

Clinical diagnosis remains the superior method for identifying acute appendicitis. Ultrasound and hemogram serve as valuable adjuncts, refining diagnostic accuracy. The integrative approach ensures optimal patient management. This study advocates for the continued development of clinical expertise alongside auxiliary diagnostic tools to enhance patient care outcomes.

Keywords:- Appendicitis, Complete Hemogram, Mcburney's Tenderness, Blumberg Sign, Ultrasonogram.

investigations, including ultrasound findings and complete hemogram, has emerged as a tantalizing prospect to augment diagnostic acumen and streamline patient management.

Within this study, we endeavour to ascertain the pre-eminence of clinical diagnosis while acknowledging the corroborative value of ultrasound findings and complete hemogram as adjunctive instruments in the assessment of appendicitis cases.

➤ Aim:

This study aims to compare the diagnostic effectiveness of three methods: clinical diagnosis, ultrasound findings, and elevated total count for identifying acute appendicitis cases.

➤ Objectives:

- **Clinical Expertise unveiled:** Assess the reliability of clinical diagnosis in accurately identifying acute appendicitis cases, showcasing the proficiency of experienced medical practitioners. Clinical findings include Mcburneys tenderness, Blumberg sign and lateral wall tenderness on Digital Rectal Examination
- **Precision of Ultrasound:** Explore the diagnostic accuracy of ultrasound findings as an adjunctive method for detecting inflamed appendices, offering non-invasive imaging insights.
- **Haematological Clues:** Investigate the potential correlation between elevated total count and precise appendicitis diagnosis, revealing haematological indicators' diagnostic worth.
- **Method Comparison:** Compare clinical diagnosis, ultrasound findings, and elevated total count, unveiling their distinct diagnostic strengths and collective impact.
- **Improved Patient Care:** Contribute to optimized patient care by enhancing acute appendicitis diagnostic pathways, minimizing unnecessary interventions, and maximizing positive outcomes.

I. INTRODUCTION

Appendicitis, an acute and exigent surgical condition, demands expeditious and precise diagnosis for optimal patient outcomes.

While clinical evaluation retains its status as the cornerstone of diagnosis, the amalgamation of ancillary

II. MATERIALS AND METHODS

- Study Design : Cross Sectional Study
- Study Population : Patients who visited General Surgery OPD/ER in our hospital.
- Sample Size : 30
- Study Duration : 3 months

➤ **Inclusion Criteria:**

Patient aged 10-60 years diagnosed to have acute appendicitis.

➤ **Exclusion Criteria:**

Patients with a prior history of appendicitis surgery or those unwilling to undergo surgical intervention

Table 1: Datasheet

SNO	NAME	AGE	SEX	CLINICAL DIAGNOSIS	USG FINDING	TOTAL COUNT
1	PANDISELVI	17	F	1	1	0
2	SRINITHI	12	F	1	0	0
3	JITHESH	10	M	1	0	1
4	SINGARAVELAN	17	M	1	1	1
5	ABISHEK	22	M	1	1	0
6	PERIYAMARUTHU	28	M	1	1	1
7	BACKIYARAJ	36	M	1	0	0
8	RANJITH	14	M	1	1	1
9	BHUVANESHWARI	22	F	1	1	1
10	KAMALA	39	F	1	1	0
11	SUSHMITHA	16	F	1	1	0
12	SELVARANI	30	F	1	0	0
13	ARUN KUMAR	27	M	1	1	1
14	SUGANTHAMMAL	46	F	1	1	1
15	RAJENDRAN	32	M	1	1	0
16	KUPPAMMAL	64	F	1	0	1
17	ANJESH KUMAR	26	M	1	1	1
18	MATHI DASS	32	M	1	0	1
19	POONGOTHAI	46	F	1	0	0
20	JANAGI	27	F	1	0	1
21	MAHESH	37	M	1	0	0
22	CHINNAKARUPPAN	61	M	1	1	1
23	DURAI	41	M	1	0	1
24	MAHALAKSHMI	13	F	1	1	1
25	PERIYAKARUPPAN	27	M	1	0	1
26	AYYANAR	28	M	1	1	1
27	RAJAGOPAL	32	M	1	1	1
28	REVATHI	35	F	1	0	1
29	SOMU	17	M	1	1	1
30	SUBITHRA	19	F	1	1	1
	DATA CODING	1 = +VE FINDING				
		0= -VE FINDING				

III. RESULTS**A. Clinical Findings and Ultrasound Correlation:**

Among the 30 patients diagnosed clinically, only 18 cases had a finding in the ultrasonogram showing f/s/o acute appendicitis.

Ultrasound provides valuable complementary information in confirming appendicitis diagnoses.

Table 2: Clinical Diagnosis vs Ultrasound Diagnosis

	CLINICAL DIAGNOSIS	ULTRASONOGRAM DIAGNOSIS
NO OF CASES DIAGNOSED	30	18

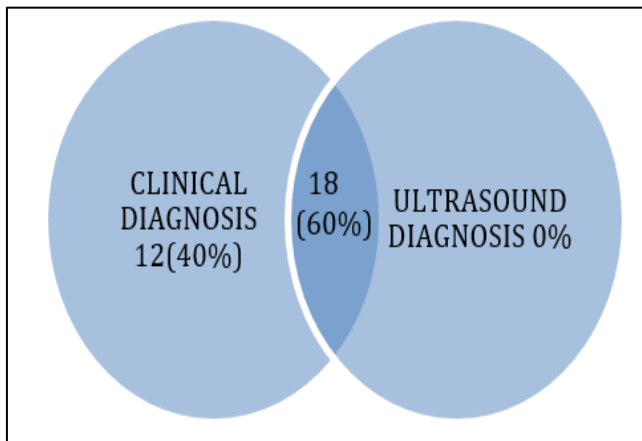


Fig 1: Pie Chart of Clinical Diagnosis vs Ultrasound Diagnosis

B. Clinical Findings and Elevated WBC Count:

Among the 30 patients diagnosed clinically, 20 cases had increased total leucocyte count. Elevated total count was observed in 20 patients, reinforcing the diagnostic relevance of hemogram data.

Table 3: Clinical Diagnosis vs Elevated WBC Count

	CLINICAL DIAGNOSIS	INCREASED TOTAL LEUCOCYTE COUNT
NO OF CASES DIAGNOSED	30	20

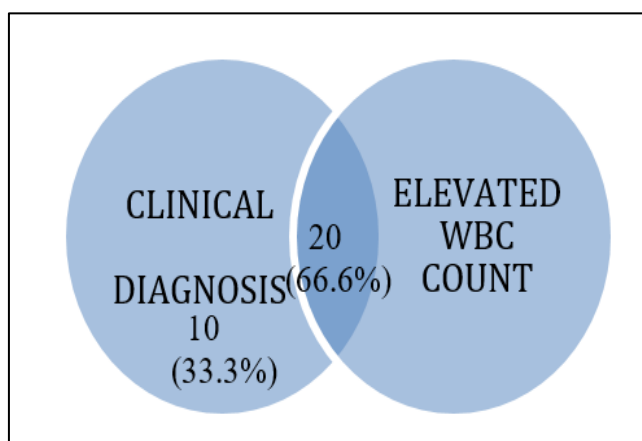


Fig 2: PIE Chart Showing Clinical Diagnosis vs Elevated WBC Count

C. Clinical Findings and Ultrasound Correlation with Leucocytosis:

Among the 30 patients diagnosed clinically, only 13 cases had both increased total leucocyte count and positive sonogram report.

A combined approach integrating clinical evaluation, ultrasound, and hemogram data resulted in a comprehensive diagnosis in all cases, res optimal diagnostic accuracy and streamlined patient management.

Table 4: Clinical Diagnosis vs Both USG Diagnosis and Leucocytosis

	CLINICAL DIAGNOSIS	INCREASED TOTAL LEUCOCYTE COUNT
NO OF CASES DIAGNOSED	30	13

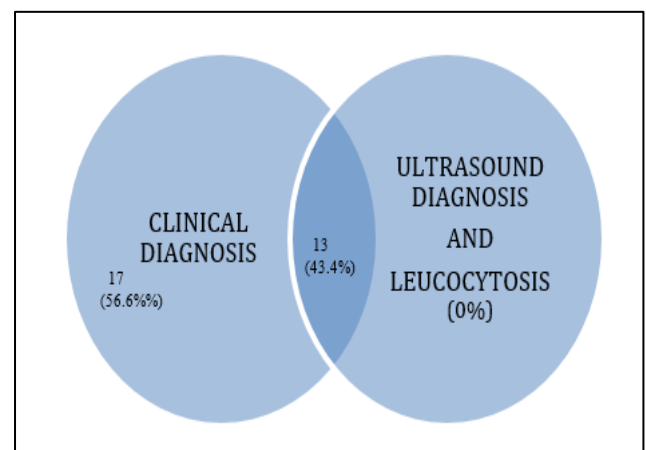


Fig 3: PIE CHART Showing Clinical Diagnosis vs Both USG Diagnosis and Leucocytosis

D. Diagnostic Superiority of Clinical Diagnosis:

Our study underscores the paramount importance of clinical diagnosis as the superior method for identifying appendicitis cases.

While ultrasound findings and complete hemogram serve as valuable complementary tools, the integrative approach ensures optimal diagnostic accuracy and streamlined patient management.

IV. DISCUSSION

In the examination of diagnostic approaches for acute appendicitis, the prominence of clinical diagnosis emerges as a pivotal focal point. Demonstrating a remarkable accuracy rate of 30 out of 30 cases, clinical assessment solidifies its role as the cornerstone in identifying appendicitis. This diagnostic proficiency showcases the invaluable contribution made by skilled healthcare practitioners, whose expertise steers precise diagnoses. Although modern supplementary tools like ultrasound and elevated total count offer valuable insights, the extraordinary precision achieved through clinical diagnosis underscores its undeniable superiority. This investigation reiterates the enduring significance of clinical expertise in the diagnostic landscape, forming a compelling argument for its paramount position in appendicitis identification. While ultrasound serves to eliminate alternative differential diagnoses, such as ureteric colic or

right adnexal masses, and can provide insights into potential complications and also Total count is not elevated in all cases, the ultimate diagnostic authority for acute appendicitis remains rooted in clinical assessment.

V. CONCLUSION

Clinical diagnosis holds superior value in identifying appendicitis cases, guiding optimal patient care.

The integration of ultrasound and hemogram data refines diagnostic accuracy and patient management.

This study advocates for nurturing clinical expertise while embracing insights from ancillary investigations for patient-centric care.

Ongoing research is essential for advancing appendicitis diagnosis and achieving excellence in patient outcomes.

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