METHODOLOGY

Type of study (research design): Prospective observational study.

Place of study: AVBRH


Source of data:

The source of data for our study is the patients coming to Acharya Vinoba Bhave Rural Hospital Sawangi Meghe, Wardha

Participant and sampling procedure:


Sample size:

Numbers of cases studied were 418. The inclusion and exclusion criteria were as follows:

Inclusion criteria:

1) Patients between any age groups who presented with Right Iliac Fossa pain clinically suspected to be Acute Appendicitis.

Exclusion criteria:

1) Pregnant women.
2) Patients with Right Iliac Fossa mass.
3) Patients with previous history of Urolithiasis and Pelvic Inflammatory Disease.
4) Laparoscopically operated appendectomies (LA) in an elective setup.

LA cases were not included as facility of laparoscopy was not available in emergency set up.

Data collection tools and process, variables, definitions, analysis plan:

In the prospective longitudinal and observational study involving the patients between any age group coming to the hospital with Right Iliac Fossa pain, informed consent was taken from them. The patients were observed from admission till discharge from the Hospital. The daily follow up including monitoring of vitals and systemic examination twice a day was done. The histopathology findings were documented. All patients in present study were subjected for open appendicectomy (OA).
Patients were observed as follows:

1) As per Yash score and modified Alvarado Score
2) Blood examination including TLC and CRP
3) Routine Urine examination
4) Ultrasonography done by consultant Radiologist
5) Histopathology Examination of the specimen after surgery

The data collected included the patient’s demographics, age and gender, the presenting symptoms (the migration of pain to the RIF, nausea and vomiting, anorexia), clinical signs (RIF tenderness, rebound tenderness, hyperaesthesia in Sherren’s triangle and fever), laboratory investigations (white cell count and CRP) and ultrasonography. The inclusion of these 10 parameters was agreed upon by guide and scholar. Parameters of mass and three more parameters are added to develop new diagnostic scoring system (improvise the MASS). The probability and odds ratio and factor analysis done to allocate scores. Confirmation of acute appendicitis as the final diagnosis was obtained from a histopathological analysis of the resected appendix at the Department of Histopathology at AVBRH.

This new broadened diagnostic kit (Yash score) is used in present study to diagnose acute appendicitis

The data was analysed using a non-parametric chi-square test. The probability and odds ratio for each parameter were derived using logistic regression analysis. The receiver operating curve (ROC) at the optimal cut-off threshold score for the new appendicitis scoring system (YASH) and MASS were derived using the SPSS 17.0 statistical software. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and diagnostic accuracy at the optimal cut-off threshold score were also derived from the ROC of YASH score (see Fig. 5, 8 and table 4). Principal component factor analysis was done. Around 10 sign and symptoms of acute appendicitis fully studied and correlated with histopathology. Weightage of additional parameters was given as per odds ratio, probability, diagnostic accuracy and factor analysis. Parameters common in both scores have weightage as per MASS.

Ethical approval for the study was obtained from the Ethics Committee Review Board of DMIMS University