DISCUSSION

Around 418 subjects were included in the study, consists of 251 (60.05) of males and 167 (39.95) from female gender. Clinically diagnosed as acute appendicitis subjected for thorough clinical examination, lab investigations, USG abdomen and subjected appendiceal specimen for histopathological examination after surgery. Hemoglobin evaluated was in range of 9.4 gm/dl to 15 gm/dl with mean level of 12.29/dl (see table no.12). TLC was in range of 3300 to 20500 with mean level of 10450.28 (see table no.13). As already mentioned in material and method, 3 parameters were added to MASS to broadened the diagnostic kit.

All patients were operated by open appendicectomy method. In 396 (94.74%) patients Mc Burney’s grid iron incision and in remaining 22 (5.26%) patients right paramedian incision was taken to remove appendix (see table no. 14).

According to the many authors, the vermiform appendix is the only organ in the human body which has multiple definitive anatomical positions. Its position varies from individual to individual. The position of the vermiform appendix was of great interest not only because of its evolutionary significance but also because of its pathological and surgical importance. Appendicitis was a common medical problem in man and woman at all ages from childhood to old age. The position of the organ was important in the clinical presentation, surgical approach and prognosis of the appendix related diseases38.

In present study we find various intra operative positions of the appendix (fig. 23). Most common position was retrocaecal in 258 (61.72%). In study done by Rahaman et al38 found pelvic as a commonest position in Bangladeshi people and retrocecal was second common position.

Rectal examination in acute appendicitis done in present study was with positive findings like pelvic tenderness in only 30 (7.18%) cases. Sensitivity and specificity rectal examination were 90 %and 12.1% respectively. With negative and positive predictive value of 94% and 7.34% respectively (see table no. 15), this valuable sign is of less significance because it was positive in very less number of cases. Results of Takada T, Nishiwaki et al39 were similar to our study. In conclusion of a systematic review and meta-Analysis states that acute appendicitis cannot be ruled in or out through the results of digital rectal examination. Reconsideration is warranted for the traditional teaching that digital rectal examination should be performed routinely in all patients with suspected appendicitis. Situations in which the digital rectal examination has an important role should be further investigated; similar situation was observed in present study.
Sherren’s triangle hyperesthesia is a area of skin hyperesthesia bounded by lines joining anterior superior iliac spine, the pubic symphysis and umbilicus. It was described by the English surgeon James Sherren. Hyperesthesia in Sherren’s triangle was the first parameter included to broaden the diagnostic kit (see fig. 9). This sign was having good sensitivity (47.69%) and PPV(92.08%). We offered score of 1 in Yash scoring system as per its probability and odds ratio. (see table no. 1 and fig. 5,6)

In appendicitis presenting with abdominal pain, in which the classical history of central abdominal pain migrating to the right iliac fossa, is taken for granted. In the present study Migratory right iliac fossa pain was selected as a second parameter for Yash scoring system. Score of all parameters of MASS were not changed hence a score of one was given to it. This sign was present in 231(55.26%) cases with sensitivity and specificity of 56.67% and 64.29% respectively. PPV was 95.67% and NPV was 9.62%. (see fig. 11)

Irvin et al. in 1989 performed an audit of diagnosis made on 1190 cases of acute abdominal pain presenting to their surgical department and noted that second to non-specific abdominal pain which comprised 35% of cases, appendicitis was the second commonest at 17% and intestinal obstruction third at 15%.

In a study done by P. D. Gaurav et al. most common presentation was pain in right iliac fossa and most common presenting sign was tenderness in right iliac fossa. These were present in all the patients. The second most common presenting complaint was nausea and vomiting (94%) followed by anorexia in 87% of patients. Pain that "shifts" from the original site of onset to another location in the abdomen is most often associated with acute appendicitis where periumbilical or epigastric pain (visceral) that is present early in the course of the disease is replaced with right lower quadrant (somatic) pain later in the illness when the parietal peritoneum becomes involved with the inflammatory process.

Acute appendicitis has many clinical symptoms such as anorexia, abdominal pain, nausea, vomiting, urinary symptoms etc. Anorexia is an important and prevalent symptom in acute appendicitis. If a patient has abdominal pain but he or she doesn’t have anorexia, the diagnosis of appendicitis becomes doubtful. In present study we found that in patients with acute appendicitis, 78.47 % (328) had anorexia. The sensitivity of anorexia was 80% and PPV was 95.12 with specificity and NPV was 42.86% and 13.33% respectively (see fig. 12). These results of our study are comparable with the study done by Ali Akbar Salari et al. In his series out of a total of 465 cases, 400 (86%) cases were confirmed of appendicitis. Three
hundred thirty five (83.75%) had anorexia. Sensitivity was 83.75% and specificity was 24.61%. Positive predictive value was 87.2% and Negative predictive value was 19.8%.

Presence of anorexia increases probability of appendicitis but its absence cannot rule out diagnosis of acute appendicitis as specificity and NPV were less. We had given score of 1 to it to YASH score (as per MASS).

In our study nausea and vomiting were present in 285 cases out of 418 (68.18%). Sensitivity, specificity, PPV and NPV were (69.23%, 46.43%, 94.74% and 9.77) respectively. This is suggestive of diagnostic ability but less likely to rule out acute appendicitis. Score of 1 given to it in the new diagnostic scoring system (YASH) (see fig.13).

Fever suggest onset of bacteremia, in a present study around 260 (62%) patients were suffering from fever with sensitivity and specificity of 64.10% and 64.29% respectively. The PPV and NPV were 96.15% and 11.39%, as per MASS a score of 1 was given (see fig.15)

Rebound tenderness represents pain from layer of peritoneum by stretching or moving. Positive “Blumberg sign” or rebound tenderness is indicative of peritonitis, can occur in diseases like appendicitis and may occur in ulcerative colitis. This sign is especially useful in diagnosing appendicitis requiring urgent management. However, in recent years the value of rebound tenderness has been questioned, since it may not add any diagnostic value beyond the observation that the patient has severe tenderness. The usefulness of the rebound tenderness test in indicating peritonitis was prospectively assessed by Liddington MI et al in his 142 unselected patients admitted as emergencies with abdominal pain and tenderness. It was found to be of no predictive value. But use of this sign has been supported by others. Bundy, DG et al in his study further noted in select groups of children, in whom the diagnosis of appendicitis is suspected and evaluation undertaken, rebound tenderness triples the odds of appendicitis like perforation peritonitis, while its absence reduces the likelihood of it. Such type of confusing scenario is present in the literature regarding one of the most used and taught sign to the graduate and post graduate students to know presence of peritonitis.

418 patients were admitted with the diagnosis of Acute Appendicitis (AA) and underwent appendectomy. Rebound tenderness was positive in 241 (57.66) patients. Sensitivity was 60% and specificity was 75% with positive predictive value and negative predictive values were 97.10% and 11.86% (fig.10) respectively to diagnose acute appendicitis. There are 13 cases of perforation observed in the study out of 418 (3.11%), 8
were females and 5 were males, out of 13 only 1 patient was having no rebound tenderness, rest in all 12 patient rebound tenderness was elicited.

Sensitivity and specificity of this sign towards appendicular perforation were 92% and 43% respectively, the positive and negative predictive (NPV) value were 5% and 99 %respectively. Here 99% NPV means that if rebound tenderness test is negative, you have a 99% chance of not having perforation. 5% PPV means that if rebound tenderness positive, you have a 5% chance of actually having the perforation. This clearly indicates that rebound tenderness is very important to rule out complications like perforation or peritonitis but to diagnose perforation it had less significance (see table no 16).

We continue a score of 1 to this valuable sign in Yash scoring system.

Right iliac fossa pain is a common surgical problem. The most common cause of pain in the right iliac fossa is acute appendicitis. Other causes could be right ovarian torsion, haemorrhage within right ovarian cyst, right ureteric colic or amoebic colitis etc. A correct diagnosis can usually be made by a combination of accurate history and examination along with specific investigations. The diagnosis is straight forward most of the times. Occasionally, right iliac fossa pain can present as a diagnostic dilemma to the clinician. Tenderness in right iliac fossa was present in 392 (93.77%) subjects and absent in 6.22% in the present study. These 6.22% patients present with vague pain around umbilicus, epigastrium or whole abdomen (visceral pain). Sensitivity and specificity of tenderness in right iliac fossa was 93.59% and 3.57%. Positive predictive value and NPV of tenderness in right iliac fossa were 93.11% and 3.84% respectively (see fig.14).It suggests its value in diagnosing appendicitis but having less value to rule out it. We continue score of 2 as per MASS.

Acute appendicitis is one of the most common and challenging disease in surgical practice. Depending only on clinical diagnosis results in a high negative appendectomy rate reaching up to 30%.Methods to decrease both the negative appendectomy rate (NAR) and the morbidity and mortality of appendicitis are highly recommended. In 1986, Puylaert described graded compression ultrasonographic technique for the diagnosis of acute appendicitis. (See fig. no 4) Since then it has gained wide popularity being non-invasive and less expensive than CT (computerised tomography) scan. Moreover, it can be safely used in pregnant women and children since there is no radiation hazard. The most frequent sonographic findings in acute appendicitis are the noncompressibility of the appendix with a diameter greater than 6 mm. 

USG abdomen in our study shows sensitivity of 85.13% and specificity 100% with PPV and NPV were 100% and 32.56%, reports were s/o acute appendicitis in 337 patients and
normal in 82 subjects. (See fig.18) This is comparable with study performed by Maged Ibrahim et al\textsuperscript{11} in Kuwait, Statistical analysis in his study showed that graded compression USG yielded a sensitivity rate of 86.2\%, a specificity rate of 90.9\%, and an accuracy of 89\%. The positive predictability was 86.2\% and the negative predictability was 90.9\%.

USG abdomen gives highest odds ratio; diagnostic accuracy and probability (see table 1, fig.5, fig.6, fig.8). Hence we offer a score of 4 in Yash scoring system.

Two inflammatory markers one is total leucocyte count and other is C-reactive protein included in the study. Leucocytosis is an important diagnostic criterion for the diagnosis of acute appendicitis. If it is normal, patient should be further investigated by ultrasonography or diagnostic laparoscopy. The classic triad of a history compatible with acute appendicitis, clinical examination and Leucocytosis has a diagnostic accuracy rate of less than 80\% and even when radiological techniques such as ultrasonography, computed tomography or radionuclide scanning are included, the accuracy does not usually reach 90\%. Many surgeons have encountered patients who have been operated on for a clinical suspicion of acute appendicitis even though the preoperative leucocyte count was normal. It seems that in these cases a normal appendix is often found at appendicectomy\textsuperscript{48}.

In our study Leucocytosis was found in 227 (62.20\%) out of 418 patients. Sensitivity and specificity of Leucocytosis (more than 10000)\textsuperscript{49} was 57.95\% and 96.43\% with positive and negative predictive values were 99.6 and 14.1\% respectively (see fig.16). As per MASS a weightage of 2 is given to Yash score. These results were comparable to the study done by IP Mahato\textsuperscript{49} (Nepal) where Leucocytosis (\textgt;10,000) was found in 83.1\%. The conclusion of the study conducted by Giorgio Stefanutti et al\textsuperscript{50} suggests that if both WBC and CRP levels are normal in a child with a high suspicion of appendicitis, the presence of an inflamed appendix is extremely unlikely and re-evaluating the patient over time is perhaps a better option than proceeding to operation. Sensitivity of 84.7\% and specificity was 83.1\% observed in their study.

A recent meta-analysis has attempted to address the role of both clinical features and inflammatory markers in the diagnosis of acute appendicitis. The author D Birchley\textsuperscript{10} concluded that: ‘elements of the disease history, clinical findings and results of laboratory tests are weak individual discriminators of appendicitis. However, in combination, they provide high discriminatory power.’ Hence it would be correct to state that, in combination, inflammatory markers appear to have a higher discriminatory capacity. Laboratory tests of the white cell count and C-reactive protein are more effective in supporting a clinical diagnosis of acute appendicitis.
In the present study we found sensitivity and specificity of C-reactive protein was 81.28% and 92.86% with negative and positive predictive values were 26.26% and 99.37% respectively (see fig.17). Due these high values and good odds ratio and probability a score of 3 is given to this inflammatory marker.

Modified Alvarado scoring system was applied in this study to compare with new diagnostic scoring system (YSS). Sensitivity and specificity of modified Alvarado score was 52.05% and 100%. Negative and Positive predictive value of mass were 13.02% and 100% respectively. Diagnostic accuracy was 55.26 % (see fig.19). The reported sensitivity and specificity for the Alvarado and the modified Alvarado scores range from 53%–88% and 75%–80%, respectively. However, these scoring systems were developed in western countries and several studies have reported very low sensitivity and specificity when these scores are applied to a population with a completely different ethnic origin and diet.

These two scoring systems, when applied in different environments, such as the Middle East and Asia, the sensitivity and specificity levels achieved were very low. Gaurav et al. in 2013 applied the Alvarado scoring system in an Indian population and only achieved a sensitivity and specificity of 20% and 80% respectively with a negative appendicectomy rate of 26.92%. Another study by Al-Hashemy et al in 2004 using the modified Alvarado scoring system in a Middle Eastern population reported a similarly low sensitivity of 53.8% and a specificity of 80%.

The sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of Alvarado score using the study subjects by S. Olakolu et al (Manchester Parish, Jamaica) were 82.4%, 52.6%, 75.7%, 62.5% and 71.7%, respectively these results are comparable to our study.

In a study done by Dr. Syed Waris Ali Shah (Rawalpindi, Pakistan), over all sensitivity was 88.9% and specificity was 71.4%. This study was also similar to our study.

The Yash score was sensitivity of 99.48% and specificity of 92.86% with positive predictive value and negative predictive value of 99.48% and 92.85% respectively (see fig.20). Diagnostic accuracy was 98.56%. Cut point of 7 given highest sensitivity and specificity of 96.67% and 100.00% respectively. Hence Yash score of 7 or more out of 17 considered suggestive of acute appendicitis (see table no 2 and graph 1).

Factor analysis was carried out to establish adequacy of the sample and to establish the construct validity of Yash score. Principal component analysis was used as a method of extraction.
The Kaiser-Meyer-Olkin value is 0.606, which is higher than the minimum acceptable 0.6. This indicates that the sample was adequate. Further, the value indicates ‘middling’ level of construct validity.

Bartlett’s test of sphericity was highly significant at 552.134 degrees of freedom and the estimated ‘p’ value is 0.0001 which is ideal for any distribution to accept the test value; the KMO value in this case. The p<0.05 also indicates that Factor Analysis is valid for further analysis of the data. (See Table no7-11 and graph no. 3)

Receiver operating curves (ROCs) at the optimal cut-off threshold score of 7 for both Yash score and modified Alvarado score were derived using SPSS 17.0 version statistic software(see graph 1& 2). Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) at the optimal cut-off threshold scores were derived from the ROCs for both YSS and MASS. Predicted negative appendicectomy rates for both scores were calculated and compared using Chi-square test for statistical analysis. Comparison in between Yash score and modified Alvarado score in the present study shows significant statistical difference $\chi^2$-value $=30.51$ (p=0.0001). (Fig 21&22 table5&6)

If we compare it with previous studies in other scoring systems, results of present study were much higher. Kailash S, Shyam G and Pinki \textsuperscript{27} did a prospective study to evaluate Alvarado scoring system; they found negative appendicectomy rate of 16.21% and positive predictive value of 83.79%. Hsien-Wei Ting and et al \textsuperscript{30} in 2010 Constructed a new model with decision tree technology, the sensitivity and specificity of the new model were 94% and 80% respectively.

Emmanuel S Kanumba et al\textsuperscript{19} (2011) Tanzania done his study involving all patients suspected to have acute appendicitis at Bugando Medical Centre. The sensitivity and specificity of MASS in their study were 94.1% (males 95.8% and females 88.3%) and 90.4% (males 92.9% and females 89.7%) respectively. The accuracy of MASS was 92.9% (males 91.5% and females 87.6%).

The presence of a high score was found to be an easy and satisfactory aid to early diagnosis of appendicitis in children and men. However, the false-positive rate for appendicitis in women was unacceptably high in a study done by Harsha B.K. et al \textsuperscript{32} (See table 17 and 18)

Chong C F et al\textsuperscript{33} (in 2011) used RIPASA scoring system and found the sensitivity, specificity, PPV and NPV were 98.0 percent, 81.3 percent, 85.3 percent, 97.4 percent and 91.8 percent respectively. The predicted negative appendicectomy rate was 13.5%, which is a
5.9% reduction from the observed rate of 19.4%. These results are slightly lower than present study (YSS).

Histopathology is considered as a gold standard for diagnosis of acute appendicitis. In a present study (6.69%) patients were have normal on histopathological examination.

Even after elapse of more than 120 years since its first description this common surgical disease continues to remain a diagnostic problem and can baffle best of the clinician. Delay in diagnosis definitely increases the morbidity, mortality and cost of treatment. In equivocal cases, however, aggressive surgical approach "when in doubt take it out" has resulted in increased negative laparotomies. Presentation of acute appendicitis can mimic variety of acute medical and surgical abdomino-thoracic conditions. Early diagnosis is a primary goal to prevent morbidity and mortality in acute appendicitis. In spite of advancements in medical diagnostics, its diagnosis is mainly clinical one. Over the last two decades different protocols have been introduced and tested by different researchers which include Lidverg, Fenyo, Christian, Ohman and Alvarado scoring system to make an early diagnosis of this sometimes very elusive disease.

The NAR of present study was 6.69%. This negative appendicectomy rate was much lower if compare with study done by Sara Ijaz Gilani et al in her series of 1016 appendicectomy, 27% was the negative appendicectomy rate. A negative appendicectomy rate of 26.8% was found in males and 35.2% in females with statistically significant difference between the genders. Harsha B. K et al evaluated the usefulness of modified Alvarado score in the diagnosis of acute appendicitis and also quantified it by correlating it with ultra sonographic and histopathology report. The sensitivity of modified Alvarado score was 98.8% and specificity was 93.3% respectively. PPV was 89.3% and NPV was 83.3% and the negative appendicectomy rate was 7.6%.

In a study done by Dr. Syed waris Ali Shah, over all sensitivity was 88.9% and specificity was 71.4%. Average NAR was 28%.

In a study done by Ahmed M. Al-Hashemy et al over all false positive appendicectomy rate was 27.3%

In a study done by M.M. Wani et al, the negative appendectomy rate (MASS) was 19.1% for males and 35.4% for females (overall 32.3%).

Nazir Ahmad Lone (2006 India) included 240 patients, 138 males and 102 females. Alvarado score works well in men with more than seven score. However, high negative appendectomy rates are observed in females even with a score exceeding 7. Over all Negative appendicectomy rate was 17%. and in female it was 20%.
In study done by Khairy G et al⁹ (Saudi 2011) a normal appendix was removed in 54 (9.2%) patients, 39 women (72%) and 15 men (28%). Even after using CT scan and laparoscopy in atypical cases, So he draw inference that the routine use of CT scan or diagnostic laparoscopy for all patients who are suspected to have appendicitis is neither cost-effective nor safe.

In the study done by Rajab Ali, Pakistan (2010)¹⁶ the appendix was noted to be grossly 'normal' looking in 11 (16%) patient in LA (laparoscopic appendicectomy) group and 5 (7%) patients in OA (open appendicectomy) group. Final histopathology reported 13 (19%) appendices as 'normal' in LA group as compared to 7 (10%) in OA group.

Madan Samuel²⁵ (London) from England develop new score for paediatric population almost similar to MASS. Results are almost similar to our study.

In the study done on 401 patients by Ambreen Jawaid et al, 270 (67%) were male and 131 (32%) female. The mean age at presentation was 27 years (15 to 75 years). Of these, 351 (87%) had histological proven acute appendicitis and 50 (13%) had a normal appendix, resulting in a negative appendectomy rate of 13%.

A study done by Emmanuel S Kanumba et al¹⁹ (2011), a total number of 127 patients were studied. The perforation rate was 9.4%. Histopathological examination confirmed appendicitis in 85 patients (66.9%) and the remaining 42 patients had normal appendix giving a negative appendicectomy rate of 33.1% (26.8% for males and 38.3% for females).

The Ohman score yielded a rate of negative appendectomies and laparotomies of 14.3 and 12.3%,²¹

Fatemeh Nabipour⁶ from Iran in 2005 shows 34.2% of reports were normal on histopathology.

In the present study we found 13(3.11%) cases of perforated appendix. The study done by S Salati, A Rather, and S Wani in kashmir²⁴ shows higher rate of perforation. Over a period of 8 years, 834 patients were treated for appendicitis and out of these, 67 cases (8%) had perforated appendicitis. Delay in reporting to expert healthcare was a major factor leading to perforation in their area. Seventy-three per cent of perforated appendicitis cases had a postoperative complication as compared to only 4% in the non-perforated appendicitis group. Perforated appendicitis is associated with significant morbidity and mortality and steps need to be taken to prevent the delayed reporting of patients at expert healthcare facilities.

A very interesting but controversial role of antibiotics and perforation observed in a study done by Krishna K Varadhan and et al⁵⁵ in there meta-analysis of four randomized controlled trials comparing antibiotic treatment and appendicectomy for uncomplicated acute
appendicitis showed that antibiotics can be used safely as primary treatment in patients presenting with acute uncomplicated appendicitis. Perhaps, uncomplicated acute appendicitis should be treated akin to other conditions such as acute colonic diverticulitis in which antibiotic treatment plays an important role.

In a study done by Ali S. Raja et al\textsuperscript{56} From 1990 to 2007, the NAR decreased significantly from 23.0\% to 1.7\% (\(P, .0001\)), the annual number of appendectomies decreased significantly from 217 per year to 119 per year (\(P = .0003\)), and the proportion of patients undergoing appendectomy who underwent preoperative CT increased significantly from 1\% to 97.5\%(Boston America)

Faruquzzaman et al in 2014\textsuperscript{57} proposed new appendicular scoring System for diagnosis of acute appendicitis in surgical practice. A Clinical Features Score, it includes three symptoms and seven signs, migratory RIF pain, anorexia or nausea and/or vomiting are the symptoms and signs includes Mc Burney’s tenderness, muscle guarding in RIF, fever and/or leukocytosis, rebound tenderness, Rovsing’s sign, Psoas sign(Retrocaecal appendix),Obturator sign (pelvic appendix). He also compares it with Alvarado scoring system. Sensitivity of it was 91\% and specificity was 82\%, with PPV WAS 91\% and NPV was 77\%, these values are lower than present study.

Erden Erol Unluer et al\textsuperscript{58} also proposed new scoring system in 2016 .This study aimed to investigate the relationship between patients symptoms, Alvarado score and ultrasound findings, as performed by emergency physicians and radiologists, of patients with suspected appendicitis. This score had good sensitivity and a negative predictive value. However this combination is not efficient since only 45\%–55\% (positive predictive value) of the patients proved to have appendicitis as a final diagnosis. Again these values are lower than present study.

Henna E Sammalkorpi et al\textsuperscript{59} proposed new diagnostic scoring system which one is almost similar to our study. It includes clinical findings (tenderness in RLQ, guarding in RLQ and body temperature) and symptoms (pain in RLQ, migration of pain, vomiting and of neutrophils) as well as time passed between the onset of symptoms to clinical evaluation. She had not included any imaging like USG in the study. Sensitivity of it was 95.9\% and specificity was 54.2\%. Its results were inferior to YSS.

The study done by Shashikala et al\textsuperscript{60} from India in 2016 shows sensitivity, specificity, positive predictive value and negative predictive value of Tzanakis score was 79.62\%, 83.3\%, 97.72\% and 31.25\% respectively and of Alvarado score was 61.9\%,50.0\%,86.6\% and 15\% respectively. Negative appendicectomy in Tzanakis scoring was 12\% and in Alvarado scoring
was 16%. But the study done by Tzanakis in 2005\textsuperscript{20} have better results, who developed similar scoring system like YSS except of CRP, migratory abdominal pain and hyperaesthesia in Sherren’s tringle. Sensitivity, specificity, accuracy and area under curve of proposed score were 95.4\%, 97.4\%, 96.5\% and 93\% respectively. But results of study from India (Shashikala et al) were lower than present study.

In series done by Khairy G et al\textsuperscript{9}, found 9.2\% of their patients had normal appendices. Inspite of having a preoperative CT scan. This diagnostic tool has not been shown conclusive role to improve the outcome in terms of negative findings on appendicectomy and complicated appendicitis. One of the earliest studies supporting the use of routine appendiceal CT was published by Rao et al. in 1998, who concluded that routine appendiceal CT should be performed to reduce the use of hospital resources. A follow-up study by the same research group demonstrated a decrease in the NAR from 20\% to 7\%. Many studies that have been published since then do not support the liberal use of CT scan in the diagnosis of appendicitis. Perez et al. showed no improvement in the NAR with the increased use of CT. Clinical assessment without radiological imaging was shown to be superior and patients went to the operative room in a shorter time than those having preoperative CT. However, some recent publications show the significant benefit of using a preoperative CT scan in reducing NAR. Some previous reports showed that the use of laparoscopy improved the accuracy of diagnosis in acute appendicitis. The incidence rate of removing a normal appendix has been reduced to 8-20\% in those patients undergoing the laparoscopic procedure compared with 10-33\% in patients undergoing an open procedure. Others reported a further lower NAR for laparoscopic appendicectomy (4-13\%), claiming that a normal appendix can be safely left in place. However, such a policy may expose the patient to potentially harmful investigation and risks of missing the diagnosis of an early appendicitis. Others advocated the removal of the normal-appearing appendix because at histopathology examination the normal-appearing appendix might show increased cytokines, indicating an inflammatory response. In conclusion, in spite of the advances in the diagnostic and imaging techniques, the rates of the negative findings on appendicectomy have not decreased much. Clinical judgment is still the most important factor in the management of patients with suspected acute appendicitis. The routine use of CT scan or diagnostic laparoscopy for all patients who are suspected to have acute appendicitis is neither cost-effective nor safe. However, the use of these two diagnostic procedures in selected controversial cases can enhance the accuracy of diagnosis, reduce the cost and reduces NAR.
In a view of this above said scenario, the new Yash score has a promising post in place in a diagnosis of acute appendicitis. It differs from previous scoring systems by taking into account the important combined effects of CRP, TLC, USG and clinical data. The new diagnostic score is fast and more reliable in diagnosing cases of suspected appendicitis. Yash score may be aimed at that direction as a future tool for the surgeons in clinical practice.
Feasible Contributions & Translatory Component of the Study

Yash score system can help to improve diagnostic accuracy of acute appendicitis thus decreasing morbidity related to NAR and perforation.

This score can be used as a good diagnostic tool.