**Original article:   
Study of Complications of Appendicular Perforation: Observational study**

**Dr Vijay Murlidhar Thorat \* , Dr Satish Sonawane , Dr Veena Sewalikar**

Dept. of Surgery, Rural Medical College, A P Loni, Tal. Rahata, Dist. Ahmednager, Maharashtra

Corresponding author\*

Date of submission: 12 October 2011, Date of Final acceptance: 10 December 2011

Date of Publication: 30 December 2011

**Abstract:**

**Introduction:** Much effort has been directed towards early diagnosis and intervention as approximately 6% of the population will suffer from this disease during their life time (7). Delay in diagnosis leads to increase morbidity and costs.

**Methodology:** This was a prospective clinicopathological study with included 100 cases. This study included randomly all operated patients (100) suspected of appendicular perforation in the Department Of Surgery.

**Results:** By applying Chi-Square test there is a significant association between Modified Alvarado score and histology report (p<0. 05) Overall sensitivity of Alvarado score = 82. 8%, specificity= 84. 25%, PPV= 98. 2% and NPV = 69. 01%.

**Conclusion:** Herewith we concludeto stress that history and clinical examination by a skilled surgeon still remain indispensable in diagnosing appendicular perforation.

**Introduction:**  
Appendicitis is one of the commonest entity and one of the commonest clinical presentations that require emergency surgery is appendicular perforation (1-5). It is rare amongst the elderly, but is common in children, teenagers and young adults (6). Much effort has been directed towards early diagnosis and intervention as approximately 6% of the population will suffer from this disease during their life time (7). Delay in diagnosis leads to increase morbidity and costs.

**Methodology:**   
This was a prospective clinicopathological study with included 100 cases. This study included randomly all operated patients (100) suspected of appendicular perforation in the Department Of Surgery. Ethic comiitee approval was obtained for it. Sample size was estimated with the help of online sample size estimation calculator.

**Patient’s selection criteria:**

**INCLUSION CRITERIA:**

* All cases diagnosed as acute appendicitis clinically on admission.
* All patients diagnosed as appendicular perforation clinically on admission.
* All patients diagnosed on laparotomy.
* Patients ready to give informed written consent.

**EXCLUSION CRITERIA:**

* All cases with either primary peritonitis or that due to anastomotic dehiscence.
* All patients with Intestinal perforation.
* All patients not willing for operative procedure.

**Methodology:**

Clinical signs of appendicular perforation determined by the surgeons and the duration of the symptoms were documented on admission. An informed consent was obtained from all registered cases.

In all patients with pain in right iliac fossa the provisional diagnosis of appendicular perforation was made on the basis of history, clinical signs and relevant clinical data.

Among 100 cases of operated appendectomy in this study patients age group ranged from 0-10 to 90 years. Maximum group of patients belonged to 11 to 20 years(42 patients i. e, 42%)

Among 100 patients of operated appendectomy in this study, 25 were female (25%)and 75 were male (75%).Out of total 100 operated patients 91 patients diagnosed as HPE positive ( 91%)Rest 9 patients had HPE negative (normal appendix)i. e, 9%.The negative appendectomy rate in this study is 9%

**Results:**

Table No. 1 Post operative complication

|  |  |  |  |
| --- | --- | --- | --- |
| **Complication** | **wound infection** | **Soakage** | **paralytic ileus** |
| no of patients | 8 | 3 | 3 |

Table no 2. Modified Alvarado score and HPE report

|  |  |  |  |
| --- | --- | --- | --- |
| **Modified Alvarado score** | **Histology report** | | **Total** |
| **Positive** | **Negative** |
| >7 | 68 | 2 | 70 |
| <7 | 18 | 12 | 30 |
| Total | 86 | 14 | 100 |

Value of χ² = 47. 06, p<0. 05, significant

By applying Chi-Square test there is a significant association between Modified Alvarado score and histology report (p<0. 05)

Overall sensitivity of Alvarado score = 82. 8%, specificity= 84. 25%, PPV= 98. 2% and NPV = 69. 01%.

**Discussion:**  
In our study total 100 patients underwent appendicectomy out of which 14% developed complication. Most common POC – wound infection (in 8 patient), 3% had soakage and 3% had paralytic ileus. This study was done in Department of General Surgery, Pravara Institute of Medical Sciences.

Clinical signs of appendicular perforation determined by the surgeons and the duration of the symptoms were documented on admission. An informed consent was obtained from all registered cases.

In all patients with pain in right iliac fossa the provisional diagnosis of appendicular perforation was made on the basis of history, clinical signs and relevant clinical data. Among 100 cases of operated appendectomy in this study patients age group ranged from 0-10 to 90 years. Maximum group of patients belonged to 11 to 20 years(42 patients i. e, 42%) Among 100 patients of operated appendectomy in this study, 25 were female (25%)and 75 were male (75%).Out of total 100 operated patients 91 patients diagnosed as HPE positive ( 91%)Rest 9 patients had HPE negative (normal appendix)i. e, 9%.The negative appendectomy rate in this study is 9%. By applying Chi-Square test there is a significant association between Modified Alvarado score and histology report (p<0. 05) . Overall sensitivity of Alvarado score = 82. 8%, specificity= 84. 25%, PPV= 98. 2% and NPV = 69. 01%.

**Conclusion:**

Herewith we concludeto stress that history and clinical examination by a skilled surgeon still remain indispensable in diagnosing appendicular perforation.

**References:**

1. Williams GR. Presidential address: a history of appendicitis. With anecdotes illustrating its importance. Ann Surg 1983:197:495-506.
2. Scott GB. The primate caecum and appendix vermiformis: a comparative study. J Anat 1980;131:549-63.
3. Langman J, Sadler TW. Langman's Medical Embryology 9th revised ed. UK:Lippincott williams and Wilkins, 2003.
4. Puylaart JB. Acute appendicitis ultrasound evaluation using graded compression. Radiol. 1986; 158: 355-60.
5. Pearson RH. Ultrasonography for diagnosing the appendicitis. Br Med J. 1988;297: 309-10.
6. Jones DJ. Appendicitis. Br Med J. 1993; 301: 207-10.
7. Anonymus. A Sound approach to the diagnosis of acute appendicitis (editorial) lancet. 1987; 1:198-200.
8. J Iqbal, M Afzal, F Sami, A G Rehan, C Reactive Protein;A diagnostic tool for acute appendicitis;A. P. M. C;Vol:1 No. 1 2007;p 37-42.
9. Khan MN, Davie E, Irshad K, The role of white cell count and c-reactive protein in the diagnosis of acute appendicitis, J Ayub Med Coll Abbottabad. 2004 jul-sep;16(3):17-9.
10. Ko et al YS, LH, Chen DF. Laboratory aid and ultrasonography in the diagnosis of appendicitis in children. Zhonghua Min Guo Xiao Er ke Yi Xue Hui Za Zhi 1995;36:415-9.