International Journal of Medical Science and Clinical Invention 5(01): 3452-3453, 2018
DOI:10.18535/ijmsci/v5i1.16 **ICV 2016: 77.2**
e-ISSN:2348-991X, p-ISSN: 2454-9576

Research Article

Correlation of Pediatric Appendicitis Score (Pas) With Appendix Diameter on Children in H. Adam Malik General Hospital Medan and Network Hospital in 2016

***Zaki Praja,** Erjan Fikri**

*Resident of Surgery Department, Faculty of Medicine Sumatera Utara University, H.Adam Malik General Hospital, Medan

**Consultant of Surgery Department, Pediatric Surgery Subdivision, Faculty of Medicine Sumatera Utara University, H.Adam Malik General Hospital, Medan

Introduction

Acute appendicitis is one of the most abdominal acute causes that occurs in younger individuals but can also occur in any age range. Children are the most affected age by acute appendicitis. The age that most vulnerable to acute appendicitis is 10-20 years of age (Tian Y et all, 2015). In appendicitis, the severity of inflammation occurring in the appendix determines the severity of symptoms that occur in an individual who experiences it (Zarandiet all, 2014). One of the ways used to establish diagnosis of appendicitis is with PED (Pediatric Appendicitis Score). In a study by Thomas Rettenbacher, the outer diameter of the appendix ≥ 6 mm obtained on ultrasound examination may also indicate an acute appendicitis state with 100% sensitivity and a specificity of 60%. So in this study we analyzed the correlation relationship between the PAS score with the outer diameter of the appendix in the case of appendicitis.

Method

This study is a cross sectional study, in which all 65 cases of appendicitis in children in RSUP H. Adam Malik in 2016 that meet the inclusion criteria were evaluated by pediatric appendicitis score (PAS) variable and appendix outer diameter variable with ultrasound. Then we analyze both variables by using Correlation Test on IPSS software program.

Results

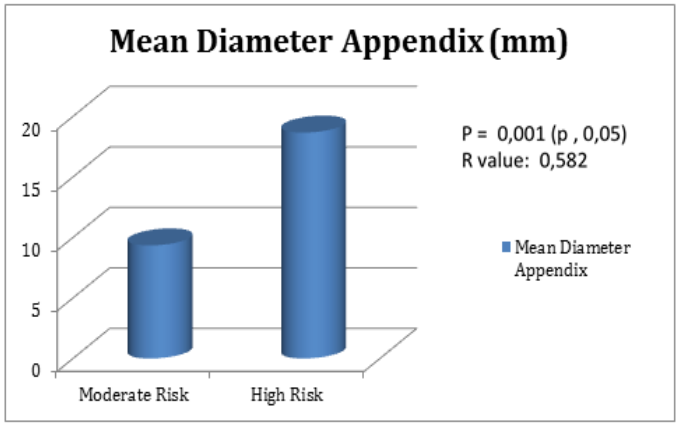
Of 65 patients that meets inclusion criteria we found the characteristics as describe in table below.

Table 1. Characteristics of subjects

Characteristics	N	%
Age (Mean ± SD)	12,98 ± 3,6	
Sex		
Men	40	61,5
Woman	25	38,5
Apendix diameter (mm)		
Mean (± SD)	10 ± 4,95	
Median (± SD)	10 ± 4,95	
Pediatric Apendix score		
Low	0	
Moderate	58	89,2%
High risk	6	10,8%

Mean age of the subjects were 12.98 + 3.6 years, with the most sex being men with 40 subjects (61.5%) and woman with 25 subjects (38.5%).

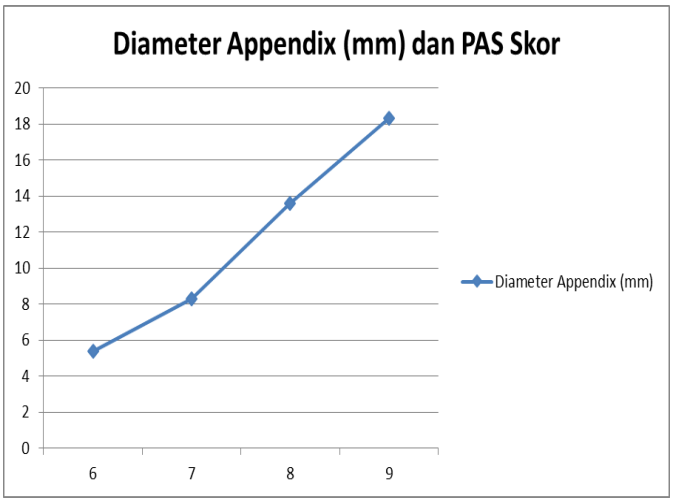
Diagram 1. Mean Diameter of Appendix by PAS grading



The mean and median of the appendix's outer diameter is 10 + 4.95 mm, these show normal distributed data. PAS criteria

obtained were moderate risk as many as 58 subjects (89.2%) with an average diameter of appendix 9.33 mm and then high risk of 7 subjects (10.8%) with an appendix outer diameter of 18.6 mm.

Diagram 2. Correlation graphics between Appendix Diameter and PAS Score



The Result of correlation test between PAS and appendix outer diameter got significant relation with value p = 0,001 with value r = 0,582 which mean there is strong correlation between both variable, as shown in diagram 2 that the greater the PAS score will followed by increasement of the appendix diameter.

Discussion

The mean age of the study subjects was 12.98 + 3.6 years, according to the study of Minkes that the age most vulnerable to acute appendicitis is aged 10-20 years. (Minkes, 2013) The highest gender was men with 40 subjects (61.5%). Comparison between boys compared with girls experiencing acute appendicitis is 1.4: 1. The risk to men is about 9% and to women about 6%. The male population has a higher risk of appendicitis when compared with the female population with a ratio of about 74% to 5%. (Petroianu 2012) The average size of apendik diameter in children with appendicitis is 10 + 4.95mm, this is in line with Zouari research which shows that the appendicion diameter is 14,583 ± 5,248 / ml. The result shows that p = 0,001 (p <0,05). It means that there is a statistically significant relationship between the size of the appendic diameter and the PAS Score. This is consistent with the PAS Outcome Score which states that PAS Score> 6 generally shows patients with acute appendicitis. In this research found that patients with PAS Score 6-8 with appendic diameter> 9 mm., While PAS Score 9-10 with diameter> 18mm. The findings in this study mean the higher the value of PAS Score then proportional to the increase in diameter appendix.