Introduction: Appendicitis is one of the most common diseases that require urgent surgical intervention. Due to its position, the inflamed appendix can cause many complications in abdominal cavity. Most of these complications are based on the anatomical position of the appendix. According to world literature over 65% of the anatomical positions of appendix is retrocaecal position, followed paracaecal and then the other positions of the appendix in different percentages. Goal: The main goal of this research is to shown that anatomical retrocaecal position of the appendix can lead to prolonged hospitalization and more often occurrence of appendicitis complications. Material and methods: The research is based on patients who had appendectomy during 2009 at the Cantonal Hospital Zenica and General Hospital Tešanj. The study included approximately 400 respondents and the method of research was of retrospective, descriptive and analytical type. Results and discussion: According to the results of this research we can conclude that in our country is not devoted enough attention to the anatomic position of the appendix and that we are not using enough diagnostic methods such as ultrasound and CT in determining the anatomic position to help determine the course of the disease. Conclusions: Retrocaecal appendix position according to the obtained data from this study did not cause many complications in classical appendectomy but this can be attributed to insufficient observation of the anatomical position of the appendix. Key words: Retrocaecal appendix, appendicitis, appendectomy

1. INTRODUCTION

According to scientific literature and available anatomical studies in international literature 79% of patients have a medially positioned appendix while 25% of patients have retrocaecal position of the appendix (1, 2, 3, 4). According to research conducted in Bosnia and Herzegovina, in the study that included 65 patients who underwent appendectomy, researchers have found that retrocaecal position of appendix was present in 33.84% of cases, while the pelvic position of the appendix was found in 57.71% of cases (5, 6, 7, 8). Retrocaecal appendix has been found in 65% cases of people of Asian origin which represent large difference to people of European origin 25% (4).

During a physical examination great attention should be given to anatomical variation of the appendix, because in some cases like the ones with retrocaecal appendix position diagnostic signs can be completely different from the usual ones (7). Krüger sign is a very important sign in physical examination because it has sensitivity up to 90% when it comes to retrocaecal appendix position (4).

Because of the specific position of the appendix, diagnose of acute appendicitis can be delayed and because of that retrocaecal position can be one of the causes that can lead to peritonitis or to inflammatory changes at retroperitoneal fascia and inflammatory changes of the adipose tissue (7).

Palpatory finding’s sometimes can be negative because of specific retrocaecal appendix position and diagnosis can be “silent” appendicitis which does not have any usual signs of the appendicitis which cause can lead to the development of many different complications.

2. GOAL

The main goal of this research is to shown that anatomical retrocaecal position of the appendix can lead to prolonged hospitalization and more often occurrence of appendicitis complications.

3. MATERIAL AND METHODS

This research was conducted in two health institutions: Cantonal Hospital Zenica and General Hospital Tešanj. This research included all the patients hospitalized during 2009 who met the following criteria:

- That they have suspected diagnosis of appendicitis;
- That they have been hospitalized from January 1st until December
31st 2009;
• That they underwent appendectomy;
• That anatomical position of appendix has been recorded.
• The study was of retrospective, descriptive and analytical type.

4. RESULTS

In this table we can see that a percent of retrocaecal appendix position is much smaller than in the findings of researches in the literature.

When we compared the average values of leukocytosis from both groups, or Cantonal hospital in Zenica and General hospital in Tešanj we could notice the difference in these values. Leukocytosis was higher for 0.34 in patients with retrocaecal appendix position treated in Cantonal hospital Zenica than the patients treated in General hospital in Tešanj. Otherwise, the average leukocytosis was by 1.99 higher in patients with the other anatomical appendix positions. Findings indicate that in baseline sample, mean leukocytosis values was not the primary cause of complications in these two hospitals.

Number of complications is very different between Cantonal hospital Zenica and General hospital Tešanj, where the bigger number of complications is noticed in Cantonal hospital Zenica.

From the results shown in table 4 we can notice that the average hospital stay for patients with retrocaecal appendix position is equal to average hospitalization of patients with other anatomical appendix position with difference of ±0.57 days.

Comparison of findings for retrocaecal appendix

According to gender retrocaecal appendix is more common in male patients (66%) than in female patients (34%).

From table 5 it is clear that the retrocaecal position is most common in age group of 10-19 years. Which is also the most common age of this appendix position occurrence described in the literature.

Results indicate that the average leukocytosis value was higher in CH Zenica (14.7) than in GH Tešanj (13.76), and Chy-square test (p=0.057) indicate that there is no significant statistical difference between group of patients with retrocaecal appendix position and other anatomical position of the appendix. When we compared just this two groups we can find statistically significant difference at level p<0.05 or that for this group there is a significant difference between the average value of leukocytosis in CH Zenica and GH Tešanj (p=0.004).

From Table 4 we notice the average number of days spent in hospital for patients with retrocaecal appendix position, and that there is no statistically significant difference between these two groups in the CH Zenica and GH Tešanj (p=0.05, p=0.287). Number of days spent in hospital for patients in GH Tešanj in average was 7.125 days and in CH Zenica 7.65.

Number of complication in patients with retrocaecal appendix position is slightly higher for patients in CH Zenica (15.38%) than in GH Tešanj (14.28%).

The most commonly diagnosed appendicitis type at CH Zenica was appendicitis gangrenous (13 cases), while the perforated appendicitis was found in just 1 patient. Difference in GH Tešanj is that there was just 2 gangrenous appendicities, but 6 phlegmonous appendicities, and just 1 perforated appendicitis.

Most commonly used antibiotic in GH Tešanj was Penicillin and Garamycin, while the Cephasolin was used in CH Zenica in 19 cases. This data refers to the retrocaecal appendix position.

5. DISCUSSION

Findings in literature shows the retrocaecal appendix position can be found in (26%-65%) of cases by using CT (18), while we find just it in only 9.16% patients, but it should be considered that in this research CT method for determination of appendix position was not used in any case. Leukocytosis values described in literature are in range 13.2-
other appendix position while in Zenica it was higher by 0.5 10^9/l but we have to take in consideration that many other external factors influence the values of this test which should be more thoroughly examined (21-40).

In this research the number of complications was lower in retrocaecal appendix position than in others positions. Most common cause of complication during the appendicitis is the retrocaecal anatomical position which is not the case in this study, so we cannot say that the retrocaecal anatomical position is a factor for more often complications during the classic appendectomy by this research.

Average number of days spent in hospital is higher for two days in patients with retrocaecal anatomical position then in patients with other anatomical appendix position (41-50).

Retrocaecal anatomical appendix position is more often seen in male patients (51-60).

**Conflict of interest: none declared.**

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