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RESEARCH ARTICLE

A STUDY ON ANATOMICAL VARIATIONS OF THE POSITION OF APPENDIX IN ACUTE APPENDICITIS

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ABSTRACT

Background: Appendicitis is one of the most common diseases that needs emergency surgery (Williams *et al*.,, 1995). Variations in anatomical position cause different clinical presentations (Singh *et al*.,, 1999). The aim of this study is to determine the anatomical variations of the position of appendix in Acute Appendicitis.

Materials and Methods: This cross sectional study was carried out in ESIC Medical college and Hospital, Coimbatore on 53 patients for a period of one year from January 2015 to December 2015 who had undergone appendicectomy in acute appendicitis. Following parameter was ascertained : 1) appendix position during appendicectomy.

Results: in our study Retrocecal position was the predominant position (39.62%) followed by pelvic 25.42%, paracecal 18.8% and Preileal 9.43% respectively.

Conclusion: Retrocecal position is the most common location in our patients.

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INTRODUCTION

The vermiform appendix is located in the right lower quadrant of abdomen (Williams *et al*., 1995, Sabiston *et al*., 2001). It is a narrow, worm shaped tube, arising from the posteromedial caecal wall, 2cms or less below the end of the ileum (Williams *et al*., 1995; Zinner *et al*., 1997). Its opening is occasionally guarded by a semicircular fold of mucous membrane known as the valve of Gerlach (Singh, 1999). The appendix is usually located at the junction of the 3 taeniae, found on the surface of the caecum (Williams *et al*., 1995; Sabiston *et al*., 2001 and Schwartz *et al*., 1999). Its length varies from 2-20 cms, with an average length of 9cms (Williams *et al*., 1995, Buschard. & Kjaeldgaurd, 1973). The attachment of the base of the appendix to the caecum remains constant, whereas the tip can be found in a retrocaecal, pelvic, subcaecal, preileal and post-ileal positions (Williams *et al*., 1995; Sabiston *et al*., 2001; Schwartz *et al*., 1999). It is connected by a short mesoappendix to the lower part of the ileal mesentry. This fold is usually triangular, extending almost to the appendicular tip along the whole tube (Williams *et al*., 1995). The mesoappendix has a free border which carries the blood supply to the organ, by the appendicular artery, a branch from the ileocolic artery (Williams *et al*., 1995, Zinner *et al*., 1997).The appendix contains lymph follicles. Lymphoid tissue first appears in the appendix about 2 weeks after birth (Schwartz *et al*., 1999; Fawcett, 1994) It's epithelial lining has a surface coat of immunoglobulins which may be involved in the control of lymphatic surveillance (Williams *et al*., 1995; Schwartz *et al*., 1999; Williams and glimour, 1989). The appendix develops from the midgut loop together with the caecum, ascending colon and the proximal two thirds of the transverse colon (Sadler, 1990, Moore and Persaud, 1998). Appendicitis is the most common cause of acute abdomen in young people (Schwartz *et al*., 1999, Addiss *et al*., 1990). Identification of the normal position of appendix is important because in appendicitis variable positions may produce symptoms and signs related to their position, and hence can mimic other diseases (Sabiston *et al*., 2001; Bakheti and Warille, 1999). This study has been undertaken to investigate different positions of the vermiform appendix during appendicectomy in Esi patients.

MATERIALS AND METHODS

This study was carried out in ESIC Medical college and Hospital, Coimbatore for a period of one year from January 2015 to December 2015 in the General surgery department. The results were kept in the medical records in hospital. Immediately following incision of the anterior abdominal wall

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and exposure of appendix, its general features were studied. These included mainly its position.

RESULTS

Positiion: The percentages of different positions of the appendix were as follows : retrocaecal 39.62%; pelvic 24.52%; preileal 9.43%; subcaecal 1.88%; postileal 3.79%: Paracecal 20.76. When different positions were compared among males and females, there was female predominance. The most common anatomical position of appendix was retrocecal (39.62%)

Table 1. Sex wise distribution of Appendicitis

Sl. No	Sex	No of patients	% of patients
1.	Male	24	45.28
2.	Female	29	54.72

Table 2. Age wise distribution of appendicitis

S.No	Age	No of patients	% of patients
1.	Less than 20	21	39.62
2.	20-40	21	39.62
3.	40-60	11	20.76
4.	Above 60	0	0

Table 3. Position of appendix in Acute Appendicitis

S.No.	Position of Appendix	No of patients	% of patients
1.	Retrocecal	21	39.62
2.	Pelvic	13	24.52
3.	Preileal	5	9.43
4.	Postileal	2	3.79
5.	Paracecal	11	20.76
6.	Subcecal	1	1.88

DISCUSSION

In this study the incidence of Retrocecal position of appendix (39.62%) was the highest accounting for 54.72% in males and 45.28% in females. These results are similar to another study in Zambia (Katzurskj *et al*., 1979) in which the pelvic position was the commonest (43%). But in other studies retrocaecal position was the commonest position (Bakheit and Warille, 1999; Collins, 1932; Ajmani and Ajmani, 1983). In this study, retrocaecal position was seen in 32.5% of patients and was less common compared with other studies including : England 65% (Wakely, 1932), Nijeria 38% (Solanki, 1970); India 68% (Ajmani and Ajmani, 1983). But this incidence of retrocaecal position was higher than that of America (20×2% by Addiss *et al*., 1990) and Zambia (20% by Katzurskj *et al*., 1979). The average length of appendix was 6.61cms in male, 6.06cms in females and 6.22cms in children. This was less than that seen in other studies (Williams *et al*., 1995, Schwartz *et al*., 1999; Bakheit and Warille, 1999; Katzurskj *et al*., 1979; Collins, 1932; Ajmani and Ajmani, 1983). Average length of appendix in children (0-18 years) was less than in adult group (19-73 years). The above findings are opposite to the other studies (Williams *et al*., 1995; Bakheit and Warille, 1999 and Collins, 1932).

Conclusion

This study determined the most common variety of the appendix in this area. Therefore, it can help the surgeons to make optimal diagnosis and treatment of appendicitis.

Source of Support: Nil.

Conflict of Interest: Nil.

REFERENCES

Addiss, D.G., Shaffer, N., Fowler, B.S.F. and Tauxe, R.V. 1990. The epidemiology of appendicitis and appendicectomy in the United States. *American Journal of Epidemiology,* 132 ; 910- 925.

Ajmani, M.L. and Ajmani, K. 1983. The position, length and arterial supply of vermiform appendix. Anatomischer anzeiger. 153 (4) : 369-374.

Bakheit, M.A. and Warille, A. A. 1999. Anomalies of the vermiform appendix and prevalance of acute appendicitis in Khartom East *African Medical Journal*, 16 (6):338- 340.

Collins, D.C. 1932. The length and position of the vermiform appendix. *American Journal of Surgery*, 96 : 10441048.

Katzurskj, M.M; Gopal Rao, U.K., Brady, K. 1979. Blood supply and position of the vermiform appendix in *Zambians Medical Journal of Zambia*, 13 (2) : 32-34.

Moore, K.L. and Persaud, T.V.N. 1998. Before we are born essentials of embryology and birth defects. 5th edn; W.B. Saunders company. Philadelphia; pp: 273-280.

Sabiston, D. C., Townsend, Courtney, M. 2001. Sabiston's textbook of surgery, the biological basis of modern surgical practice. in : Appendix. 16th edn; Vol 2; W.B. Saunders Company. Philadelphia. p: 918.

Sadler, T.W. 1990. Langman's Medical embryology. 7th edn; Williams and Wilkins. Baltimor. pp: 260-2.

Schwartz, S.J. Shires, G.T., Spencer, F.C., Daly, J.M., Fischer, J.E., Galloway, A,C. 1999. Principles of surgery Schwartz. In : The Appendix 7th edn; Vol 3. MC Graw-Hill. Philadelphia. pp : 1383 – 5.

Singh, I.B. 1999. Chaurassia's human anatomy, Regional and applied. Third edn; Vol 2; CBS publishers and distributors. New Delhi. pp : 223-5.

Solanki, T.F. 1970. The position, length and content of the vermiform appendix in Nigerians. *British Journal of Surgery*, 57 : 100- 102.

Wakely, C.P.S. 1933. The position of the vermiform appendix as described by analysis of 10.000 cases. *Journal of Anatomy,* 67 : 272.

Williams, P.L.; Bannister L.H., Berry M.M., Collins, P., Dyson, M., Dussek, J.E. and Ferguson, M.W.J. 1995. Gray's Anatomy. In : Alimentary system. 38th edn. Churchill Livingstone, New York. P : 1775-6.

Williams, R. A. and Glimour H.M. 1989. Gastrointestinal and esophageal pathology. In : The Appendix. First edn; Churchill Livingstone. Edinburg. pp : 533-8.

Zinner, M.J., Schawrtz, S.I., Ellis, H. 1997. Maingot's abdominal operations. In: Appendix and Appendicectomy. 10th edn; vol 2; Appleton & Lange, Philadelphia, pp : 1190-1193.

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