IJCRR
Vol 05 issue 15
Section: Healthcare
Category: Research
Received on: 02/07/13
Revised on: 19/07/13
Accepted on: 05/08/13

CADAVERIC STUDY OF ARTERIAL PATTERN OF CAECUM AND VERMIFORM APPENDIX - RESEARCH ARTICLE

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ABSTRACT

Aim: Knowledge of normal and abnormal arterial supply of the caecum and appendix is very important to surgeons to perform the abdominal operations. The present study was carried out to know the arterial pattern of caecum and appendix.

Materials and methods: The study was done on total number of 80 specimens, 30 were adult cadavers and 50 foetuses.

Results: In all adult and foetal specimens, the ileo colic artery was arising from right side of superior mesenteric artery, anterior and posterior caecal arteries were arising from inferior division of ileo colic artery. Single Appendicular artery was arising from inferior division of ileo colic artery in all specimens expect one foetuse, which seen accessory appendicular artery.

Conclusion: In the present cadaveric study observed majority normal pattern of arterial supply of caecum and appendix except one accessory appendicular artery observed in foetuse.

Keywords: Vermiform Appendix, Fotuses, Appendicular artery

INTRODUCTION

The caecum is a large blind sac which seen in the right iliac fossa, proximal to ascending colon. Vermiform appendix is narrow tube like structure which arises on posterio medial side of caecum at the level of the ileal opening. The inferior division of the ileocolic artery is the source of blood supply to the caecum and appendix, which arises from the right side of the superior mesenteric artery, branch from the abdominal aorta. Anterior and posterior caecal arteries are branches of inferior division of the ileocolic artery which supply the caecum. The appendix is supplied by appendicular artery which is usually branch from the inferior division of iliocolic artery [1].

METERIALS AND METHODS

The present work was carried out to study the pattern of arterial supply of caecum and appendix in human cadavers and fetuses. The total number of specimens studied was 80, out of this 30 were adult cadavers (male and female) and 50 were fetuses (male and female). The specimens were collected from department of anatomy and Gynecology & obstetrics, Guntur and Bhaskar medical colleges, Andra Pradesh, India. The cadavers and fetuses were preserved by injected preservative fluids. Dissected the specimens by giving the vertical incision from xiphisternum to pubic symphysis, later separated the peritoneum and traced the superior mesenteric artery and ilio colic artery, anterior and posterior caecal arteries, then appendicular artery in meso appendex.

RESULTS

The arterial supply of caecum and appendex was studied in detail. In all adult and foetal specimens iliocolic artery was arising from right side of superior mesenteric artery. Anterior and posterior caecal arteries were originated from inferior

division of iliocolic artery (Figure: 01). All 30 adult and 49 foetal specimens were noticed single Appendicular artery which arising from inferior division of iliocolic artery except one foetal specimen observed accessory Appendicular artery along with main artery, which arising from inferior division of iliocolic artery (Figure: 02).

DISCUSSION

Skawina studied the vermiform appendix in human fetuses, observed that in most of the cases vermiform appendix is supplied by single branch, which arising from ileo colic artery [2]. According to Shah& Shah, the appendix received two branches from either the anterior or posterior caecal artery or one branch from each of these in 30% of cases [3]. According to Arindom Banergy studies on 25 specimens, in all cases caecum was supplied by ilio colic artery which arises from right side of superior mesenteric artery and out of 25 cases 23 apendixes were supplied by single appendicular artery and 2 cases supplied by accessory appendicular artery [4]. Beaton et al studied 200 specimens, observed that 48.5 % of cases the main appendicular artery arose from the ileocolic artery, from the ileal branch 35 % and in 5 % from the posterior caecal branch of the ileocolic artery [5]. Kelly & Hurdon noticed that, 66.0% of cases, the main appendicular artery supplied distal three-quarters of the appendix, but proximal fourth of appendix was supplied by accessory appendicular artery [6]. According to Schaeffer, the main appendicular artery and an accessory artery, both were branches arise from the posterior caecal branch of the ileocolic artery [7]. Bruce [8], Koster [9] observed that appendix was supplied by a single appendicular artery.

CONCLUSION

Knowledge of the accessory appendicular artery and its course is important for surgeons while performing the laparoscopic surgeries to avoid damage of them and prevent the hemorrhage. This kind of arterial variations may also misguide the surgeon while ligating the appendicular artery especially in appendicectomy.

ACKNOWLEDGEMENTS

I wish to express that, I am greatful to my teachers Dr. K.Anasuya. Professor, Dr. K. Krupadhanam. Professor, Dr. K.V. Vijaya Saradhi. Professor and HOD and previous authors, publishers, editors of all of those articles, journals and books from where the literature of this article has been reviewed and discussed.

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FIGURES AND LEGENDS

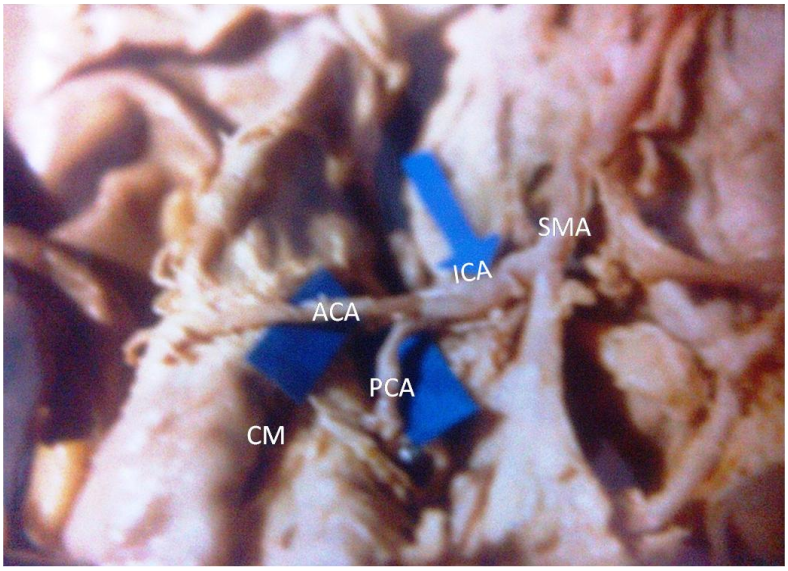

Figure: 01: Showing the SMA: Superior mesenteric artery, ICA: Ilio colic Artery, ACA: Anterior caecal artery, PCA: Posterior caecal artery, CM: Caecum.

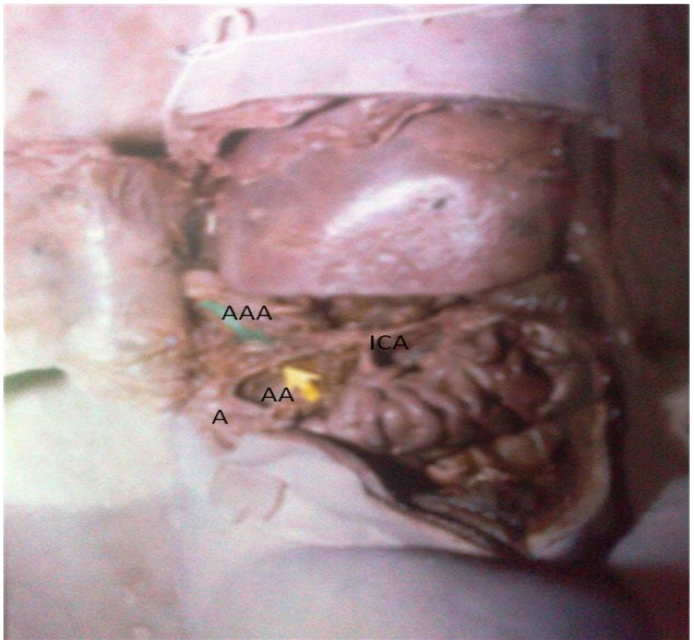

Figure: 02: Showing the ICA: Iliocolic artery, AAA: Accessory appendicular artery, AA: Appendicular artery, A: Appendex.