

Study of Various Positions of Appendix in Adult Human Cadavers

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Abstract

Background: the caecum is a blinded pouch, the part of the large intestine that begins caudally from the ileocecal valve in the right iliac fossa. Generally, the caecum is found intraperitoneally in the right iliac region of abdomen with a usual length of about 6 cm. It is mobile, without a mesentery and the appendix is attached posteromedially at the meeting point of all three taeniae coli. The variations in anatomical location of appendix can result in different clinical presentation in acute appendicitis and carcinoid tumour. The present study aims to determine the positional variations of appendix.

Material and method: the study was carried out in 8 cadavers which were available in the department of anatomy, kurnool medical college. The position of the appendix was observed.

Results: the shape of the caecum was adult in all specimens and in all specimens ileum opened posteromedially to caecum. In 5 specimens the appendix was retrocaecal in position, 2 pelvic and 1 subcaecal in position.

Conclusion: the identification of caecum and appendix is first step in appendicectomy either in open or laproscopic surgery. The anatomical variations of caecum and appendix is important for surgical gastroenterologists.

Keywords: caecum, appendix, appendicitis, appendicectomy, anatomical variations

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I. Introduction:

The Caecum begins caudally from the ileocecal valve and ends blindly in the right iliac fossa. It is intraperitoneal, lies in the right lower abdomen and has an average length of about 6 cm. It lies variably due to incomplete rotation of the umbilical loop during embryogenesis. Clinically three important variations are observed, a mobile caecum (completely covered by peritoneum), a free caecum (with its own mesocaecum) or a fixed caecum (secondary retroperitoneal). The vermiform appendix is attached posteromedially to the end of the caecum at the confluence of all three taenia coli. It is about 2 to 15 cm long and lies intraperitoneally. It is mostly retrocaecal (65%) or in the lesser pelvis (30%) and is attached to the posterior abdominal wall by the mesoappendix.

The Appendix is located at different positions in the abdomen depending upon stage of development and rotation of gut. The position of the appendix is closely related to the development of caecum. The appendix is clinically significant as it is involved in different disease processes such as appendicitis, carcinoma and diverticulitis. Appendicitis is the most common cause of emergency laparotomy. Inflammation of the appendix resulting in acute appendicitis is a common cause for acute abdomen in young adults. If diagnosed late, it results in increased morbidity and mortality rates. Thorough knowledge of variations of caecum and appendix will help in identifying the appendix in case of laparotomy or laproscopic surgeries. Our study attempts to confirm the most common position of appendix which aids surgeons in performing various abdominal operations in adults and children.

II. Material And Method

The study was conducted on 8 cadavers which were available in the department of anatomy, kurnool medical college. The shape of the caecum and peritoneal relation was noted. The opening of ileum into caecum was observed by opening the right wall of the caecum. The position of the appendix was confirmed by the direction of the tip of the appendix.

III. Results

Majority of the caecum were adult in shape, the appendix opened posteromedially to caecum. The length of caecum varied from 4cm to 7cm.

The position of appendix were retrocolic or retrocaecal and 12 o'clock position in majority of them. The length of appendix varied from 4cm to 7 cm. The average length of appendix is 7cm.

IV. Discussion

Acute appendicitis is the most common abdominal emergency requiring surgery. Most appendicectomies are done laproscopically. The clinical presentation and operative management largely depends on the positional variations of appendix.

In the present study, the adult type of caecum was highest. The retrocaecal position was highest (62.5%) followed by pelvic(25.%) , subcaecal (12.5%). This is in accordance with previous studies.



pelvic position

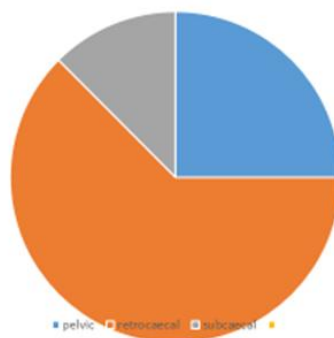


Subcaecal position



Retrocaecalposition

Variation in position of appendix



Arindom b and others studied 25 adult cadavers over a period of 3 years and found in all specimens the shape of the caecum was adult type and the appendix was found in the retrocaecal position in majority with a complete mesoappendix.

Sunnapu studied 50 embalmed cadavers and examined them for the shape of caecum, measurements of caecum, site of entry of ileum into caecum, measurements of appendix & position of appendix. The shape of caecum was adult type and asymmetrical in all of them. Out of 35 male cadavers the length was ranging from 54-65mm & breadth was ranging from 65-75 mm. In 15 female cadavers length was ranging from 50-62mm, breadth was ranging from 65-75mm. In all 50 (100%) adult specimens the ileum has opened posteromedially into the caecum. Most common position of appendix was retrocaecal and least common was pre & post ileal position.

Geethanjali and others studied 52 cadavers and observed the variations in position, length of appendix and study revealed that pelvic position was highest 36.52%, retrocaecal 32.69%, post ileal 11.53%, preileal 9.62%, subcaecal 5.77%, rt paracolic 1.9%. The average length of appendix was 6.47cms in males and 5.34cms in females.

Laparoscopic appendicectomy requires great surgical skills and is influenced by the practical knowledge of the surgeon. A prior knowledge of all possible variations of appendix and related complications is a prerequisite for a good surgeon.

V. Conclusion

We aimed to determine the commonest position of appendix and its relevance with respect to appendicitis and its operative management, which would aid laproscopic surgeons while planning the management of appendicitis.

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