

Abnormal Length and Position of the Sigmoid Colon and Its Clinical Significance

Nayak SB, George BM, Mishra S

Department of Anatomy,

Melaka Manipal Medical College (Manipal Campus)

Manipal University

Karnataka, India.

Corresponding Author

Satheesha Nayak B.

Department of Anatomy

Melaka Manipal Medical College (Manipal campus)

International Centre for Health Sciences

Manipal-576104

Karnataka, India

Email: nayaksathish@yahoo.com

Citation

Nayak SB, George BM, Mishra S. Abnormal Length and Position of the Sigmoid Colon and Its Clinical Significance. *Kathmandu Univ Med J* 2012;10(4):95-97.

INTRODUCTION

The sigmoid colon or pelvic colon is a part of the large intestine. It is about 15 inches in length and extends from the brim of the pelvis to the third piece of the sacrum where it becomes the rectum. It forms a loop which hangs down in the pelvis over the pelvic organs. As a part of the hindgut, the sigmoid colon is supplied by the branches of the inferior mesenteric artery. It is suspended by a sigmoid mesocolon which is an inverted V shaped fold of peritoneum. Its left limb is attached along the upper half of the left external iliac artery and the right limb is attached to the posterior pelvic wall. The left ureter passes behind the apex of the sigmoid mesocolon. We observed quite an unusual position and relations of the sigmoid colon which are of importance to various clinical practitioners.

ABSTRACT

Sigmoid colon is one of the most variable parts of the large intestine. Here we report a very rare type of variation of the sigmoid colon. This variation was observed during the routine dissections for undergraduate medical students at Melaka Manipal Medical College (Manipal Campus) India in September 2012. In the current case, the sigmoid colon was about 60cms long and made an inverted U shaped loop in front of the descending colon and the left kidney. It had a sigmoid mesocolon which covered the left kidney. The sigmoid colon had an ascending and a descending limb. This position of sigmoid colon and its mesocolon is dangerous as it can get twisted to form a volvulus. It also might cause confusions in radiologic and sigmoidoscopy techniques.

KEY WORDS

Colon, descending colon, pelvic colon, sigmoid colon, sigmoid mesocolon, variation

CASE REPORT

During the gross anatomy dissections for medical undergraduates, the variation of the sigmoid colon was observed. This variation was observed at Melaka Manipal Medical College (Manipal Campus) India in September 2012. The sigmoid colon was about 60cm long. It started as a continuation of the descending colon at the left iliac fossa and ascended upwards in front of the descending colon, till the left colic flexure. It then made a U turn and descended down in front of the left kidney, entered the pelvis and continued as the rectum (Figs 1, 2 and 3). The sigmoid mesocolon was reflected onto the left kidney and continued to the right as the left layer of the mesentery of small intestine and continued on the left over the descending colon (Fig 2). There was no pelvic limb for the sigmoid mesocolon.

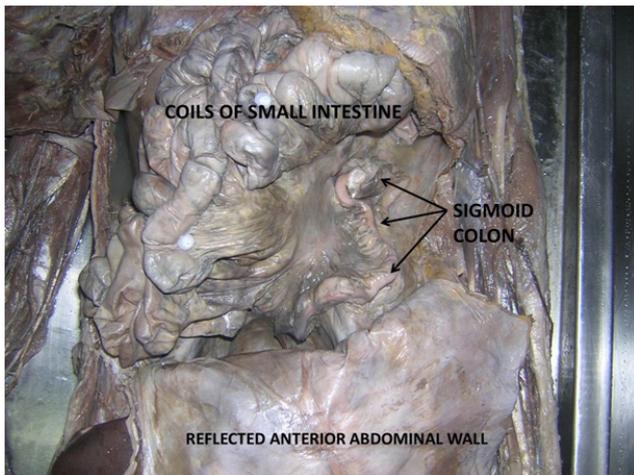


Figure 1. Intestines seen after reflection of the anterior abdominal wall. Note the high position of sigmoid colon.

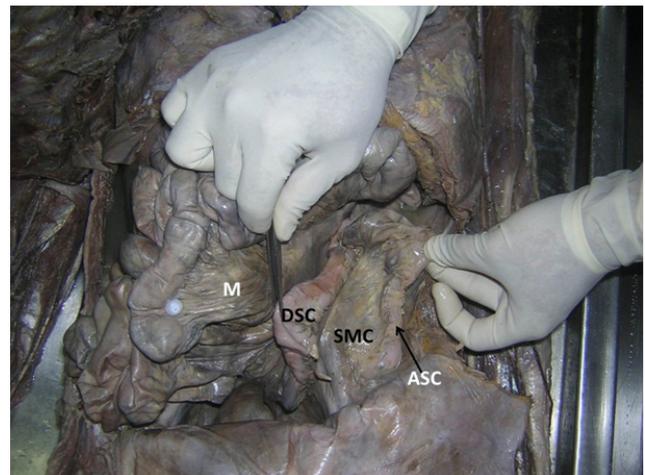


Figure 2. Closer view of the sigmoid colon and sigmoid mesocolon (SMC). Note the ascending (ASC) and descending (DSC) limbs of sigmoid colon. M = mesentery of the small intestine.

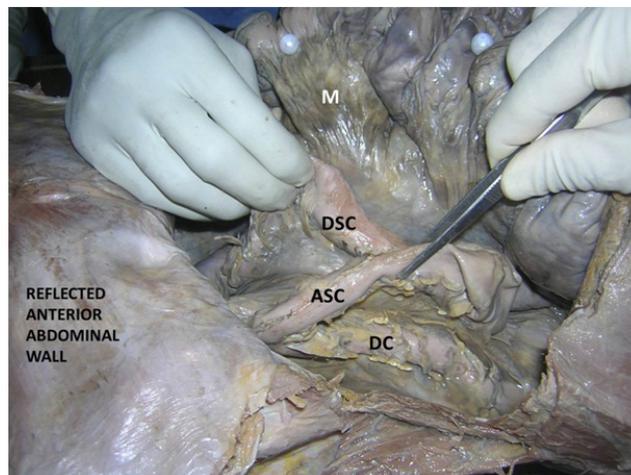


Figure 3. Left lateral view of sigmoid colon (cadaver in supine position). Note the descending colon (DC), ascending limb of sigmoid colon (ASC) and descending limb of sigmoid colon (DSC).

DISCUSSION

Variations in the length and position of any part of the colon are of developmental origin and may lead to variety of acute and chronic pathological conditions.¹ One of the most common variations of the sigmoid colon is presence of its redundant loop.² Komiyama et al in 1991 reported a 50-year-old Japanese male with excessively long distal part of the colon including the right-sided sigmoid colon.³ The redundant loop can cause various problems such as constipation, discomfort over the colon, indigestion, loss of weight, insomnia, pain and tenderness in the right iliac fossa.^{2,4} The symptoms of redundant colon may mimic symptoms of gastric ulcer, heart disease, chronic obstruction of bowel in addition to appendicitis.² Redundant loop of sigmoid colon is prone to form a volvulus which can be diagnosed through a CT scan of the abdomen.⁴⁻⁶ Chandrika GT et al have reported a case of right sided sigmoid colon recently.⁷ In the case reported by them, he sigmoid mesocolon extended from right iliac fossa to the third sacral vertebra. The current case is unique because of

the sigmoid colon extending to the left lumbar quadrant of abdomen and covering the left kidney. The attachment of the sigmoid mesocolon was also peculiar.

The N shaped loop formed by the descending colon and sigmoid colon might lead to confusions in interpretation of the barium enema radiographs. This course might cause difficulties in sigmoidoscopy as well. It might lead to constipation or compressive effect on the small intestine or even form a volvulus. Chances of developing a varicocele are greater with a sigmoid colon anomaly being reported here since it can directly compress the left testicular vessels. The possible cause for this anomaly is the failure of the rearrangement of the parts of intestine after the reduction of the physiological umbilical hernia during the fetal life.

CONCLUSION

Length and position of parts of the colon may vary leading to variety of acute and chronic pathological conditions.

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