

Letter to Editor

The dolichosigma partially located on the right: How justified is the concept of the right slow transit constipation?

Dear Editor,

An article, "Scintigraphic evaluation of colonic transit in children with constipation using ^{67}Ga -citrate,"^[1] by Calegario *et al.* was recently published in your journal.^[1] The work was done with serious methodological errors, resulting in the conclusions of scintigraphic studies turned out to be erroneous.

1. The article states that, "In the colonic walls, segmental contractions and reverse peristalsis mix promoting absorption." First, the statement about the presence of "reverse peristalsis" in the colon contradicts the known data on the normal and pathological physiology of the colon. Second, in the article to which the authors refer, there is no such information
2. The scientific literature under the name "congenital megacolon" refers to Hirschsprung's disease. If these authors did not indicate the length of the aganglionic segment, it is a question of some other disease that is not in Rome IV criteria
3. Different types of chronic constipation (CC) are divided into organic and functional. Organic causes include Hirschsprung's disease, anorectal malformations, and spina bifida. The functional reasons of CC include the cases where the cause can be established and made specific correction (hypothyroidism, celiac disease, allergies, and elevated levels of calcium and lead). All other cases of CC covered by the criteria of international groups of experts Rome IV are considered functional constipation (FC).^[2] It is not clear what the authors meant by "idiopathic CC." By what criteria did these patients differ from "congenital megacolon"?
4. The authors have written that "Colonic transit measurements have proven useful to confirming or excluding the presence of anatomic or functional abnormalities." I do not know which anatomical anomalies can be detected by examining the colonic transit
5. The purpose of the study of transit through the colon is the differential diagnosis of slow-transit constipation (STC) from obstructive constipation. Some authors believe that

STC and functional fecal retention are two forms of severe intractable constipation in childhood. It is argued that STC is characterized by delayed passage of fecal matter through the proximal colon, whereas functional fecal retention describes delayed transit in the rectosigmoid region only.^[3] However, Wessel *et al.* were not able to categorize all patients as either STC or outlet obstruction.^[4]

The authors adhere to the generally accepted opinion that "segmental transit times are measured in the right colon to the right of the vertebral spinous processes and above an imaginary line from the fifth lumbar vertebra to the pelvic outlet. The left colon is the area to the left of the vertebral spinous processes and the imaginary line above the fifth lumbar vertebra and the left anterior superior iliac crest. The rectosigmoid is the area under the imaginary line from the pelvic brim on the right to the superior iliac crest on the left."^[5] However, in obstructive constipation, a significant part of the extended and elongated sigmoid colon (dolichosigma) is located to the right of the midline [Figure 1].

In Figure 2 from the article being discussed, the authors signed: "Retrograde transit: The ^{67}Ga -citrate was come

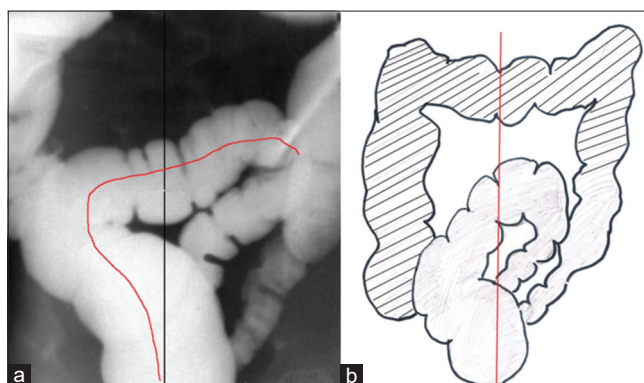


Figure 1: Barium enema of the patient with functional constipation (a) and the scheme to it (b). A significant portion of the extended and elongated sigmoid colon is located to the right of the midline (black line) and it is partially superimposed on the cecum. The configuration (red line) of the sigmoid colon differs from the ascending colon configuration. On Figures 2 and 3, it is mistakenly taken as the right half of the colon. Thus, the left half of the colon is in the right half of the abdomen

back for ascending colon (120 h image) after evacuation.” However, 72 min after the radiotracer oral administration, the marker was concentrated in the transverse colon (t) and in the rectum (r). The marker has already passed through the ascending colon and cannot be there anymore. After 120 min, the marker is in the bowel, most of which is located to the right of the midline, but none of its points reaches the level of the hepatic flexure (t). The location and configuration of the intestine correspond to the dolichosigma.

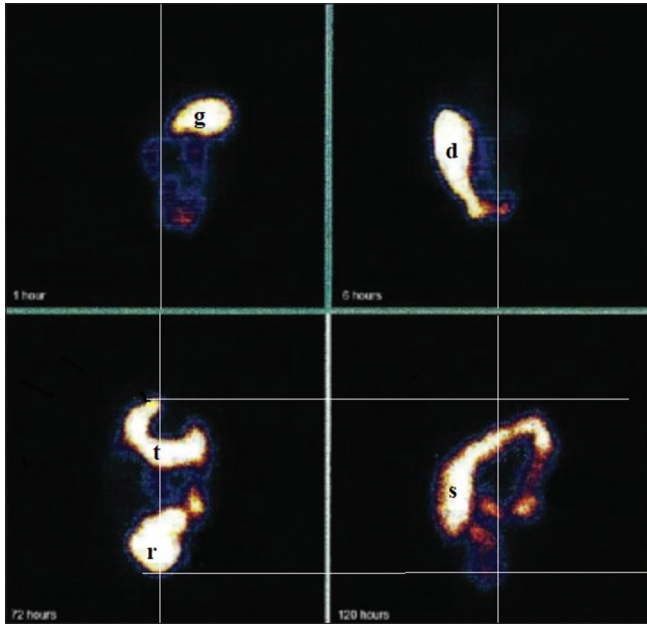


Figure 2: Slow evacuation from the stomach (g). Dyskinesia duodenum (d). Note the location of the hepatic flexure of the transverse colon (t). Extended rectum (r). Through 120 h, after emptying the rectum, the labeled chyme moved from the transverse colon to the dolichosigma. Conclusion: obstructive constipation (my notation and interpretation in the figure from the article)

In Figure 3, which is shown as “example of right stasis (ascending and transverse colon),” a gut is visible, which is filled with labeled feces after 48 h after the radiotracer oral administration. It is located to the right of the midline, but does not reach the location of the ascending colon. By location and typical form, it corresponds to dolichosigma.

The authors made two fundamental errors. First, there is no retrograde fecal movement in the colon. Second, there is no predominantly right STC. An analysis of the literature indicates that FC in all children has an obstructive nature. Gradually, evacuation from the stomach slows down. There is a slower advance of chyme in the small intestine and the colon. The difference in the image in different patients is due to the different value of megacolon and dolichosigma. The wider and longer the sigmoid colon, the more size of tagged feces is observed on the right.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

MICHAEL DAVID LEVIN

Dorot-Netanya Geriatric Medical Center, Netanya, Israel

Address for correspondence:

Dr. Michael David Levin,
Dorot-Netanya Geriatric Medical Center,
Amnon VeTamar, 1/2, Netanya 42202, Israel.
E-mail: nivel70@hotmail.com

Submission: 07-06-2019 **Accepted:** 16-07-2019 **Published:** 18-12-2019

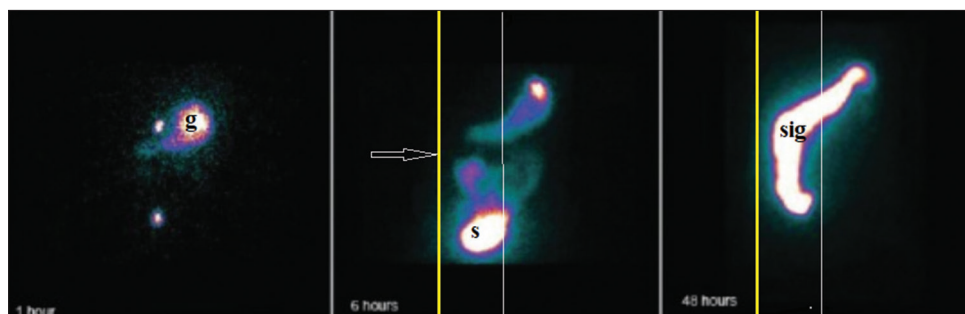



Figure 3: My tagging. Slow evacuation from the stomach (g). The small intestine loops conglomerate (s) is located to the left of the cecum. The cecum and ascending colon must be located to the right of the yellow line. Although the sigmoid colon (sig) is located to the right of the midline (white line), it does not reach the location of the ascending colon. Its shape does not even resemble the hepatic flexure of the transverse colon

REFERENCES

1. Calegario JU, Tajra JB, Souto JF, Marciano FR, De Landa DC, Bae SB, *et al.* Scintigraphic evaluation of colonic transit in children with constipation using ⁶⁷Ga-citrate. *World J Nucl Med* 2018;17:249-52.
2. Zeevenhooven J, Koppen IJ, Benninga MA. The new Rome IV criteria for functional gastrointestinal disorders in infants and toddlers. *Pediatr Gastroenterol Hepatol Nutr* 2017;20:1-13.
3. Ridha Z, Quinn R, Croaker GD. Predictors of slow colonic transit in children. *Pediatr Surg Int* 2015;31:137-42.
4. Wessel S, Koppen IJ, Wiklendt L, Costa M, Benninga MA, Dinning PG, *et al.* Characterizing colonic motility in children with chronic intractable constipation: A look beyond high-amplitude propagating sequences. *Neurogastroenterol Motil* 2016;28:743-57.
5. Szarka LA, Camilleri M. Methods for the assessment of small-bowel and colonic transit. *Semin Nucl Med* 2012;42:113-23.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Website: www.wjnm.org	Quick Response Code 
DOI: 10.4103/wjnm.WJNM_45_19	

How to cite this article: Levin MD. The dolichosigma partially located on the right: How justified is the concept of the right slow transit constipation? *World J Nucl Med* 2019;18:440-2.

© 2019 World Journal of Nuclear Medicine | Published by Wolters Kluwer - Medknow