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RADIOLOGICAL APPEARANCE OF THE COLON IN PREMATURE AND TERM INFANTS ACCORDING TO AGE

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Aim of the study: Contrast enemas are commonly performed in premature and term infants. However, little is known of what is considered normal radiological appearance in these babies whose colonic anatomy may be atypical. This study assesses how contrast enema study patterns differ according to age of the infant.

Methods: We reviewed all contrast enema studies performed in premature and term infants from 2011-2015 done in our institution retrieved from our radiology image library. Ethical approval was obtained. Each infant was grouped by postmenstrual age. Each image was evaluated by 2 independent assessors based on descriptions of fetal colonic appearance by Malas et al:1)transverse colon appearance:adult, transverse, oblique, pendulous, atypical;2)sigmoid colon appearance:normal(adult), short, right-deviated, superior;3)caecal position:iliac crest, above;and 4)ascending colon development:short, normal. Differences of opinion were resolved by consensus.

Main results: There were 71 contrasts done for 67 infants aged 38 weeks(median,range 28-52 weeks). ***Transverse colon****:*The 'adult' appearance was the most common after 36 weeks, seen in 57-90% of infants in each age group (Figure). The 'atypical' type was most common at <36 weeks. ***Sigmoid colon:***The 'superior' type was most common at <36 weeks, after which the 'right-deviated' type was most common. The 'normal/adult' type was seen in <30% of infants in each age group. ***Caecum:***All infants had the caecum in the right iliac fossa after 36 weeks. ***Ascending colon:***The 'short' colon was most common in all age groups.

Conclusion: The typical adult distribution of the transverse colon only predominates after 36 weeks. The adult type of sigmoid colon is seen in less than a third even after term. The caecum achieves its right iliac fossa position by 36 weeks. Our findings suggest that the colon continues to grow even in late infancy, and may achieve the normal adult distribution only after the first year of life.