

BREATH HYDROGEN EXCRETION IN COLICKY AND NON-COLICKY INFANTS.

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Infantile colic is a common syndrome of unknown aetiology which occurs in the first few months of life. It is characterised by excessive, inconsolable crying. There is no effective behavioural, nutritional or pharmacological therapy available.

Breath hydrogen excretion (BH_2), an index of incomplete lactose absorption, was measured in 118 healthy infants with and without colic. The colic group was selected on the basis of prolonged, inconsolable crying from infants admitted with their mothers to Tresillian and from those attending Baby Health Centres (n=65; median (\pm SE) age, 8.0 (\pm 0.5) weeks). Infants in the non-colic group were not reported to cry excessively by their mothers and were sourced from Baby Health Centres and nursing mothers groups (n=53; 9.0 (\pm 0.7) weeks).

Breath samples were collected using a face mask sampling device preprandially and then 90 min and 150 min after the start of the feed. Concentrations of H_2 and O_2 in the breath samples were measured by gas chromatography. Breath H_2 levels were normalised to 18.9% O_2 to reduce variability related to sample collection. Mothers were asked to complete a questionnaire to provide details of infant, maternal, obstetric and family history.

BH_2 was higher in the colic group than in the non-colic group at each time point ($P<0.025$).

Breath hydrogen excretion (ppm) in colicky and non-colicky infants.
(Data shown as medians)

	Preprandial	90min	150min
Colic	14	16	23
Non-Colic	7	9	10
Difference	7	7	13
S.E. of Difference	3	3	4

The percentage of infants with $BH_2>20$ ppm (indicative of lactose malabsorption) in the colic group (62%) was significantly higher ($P<0.01$) than in the non-colic group (32%). Flatulence, a family history of colic and being first born were significantly associated with colic. There were no differences between the groups in respect of history of allergy in the infant or family, obstetric history or socioeconomic status.

In this study, lactose malabsorption, assessed by measurement of BH_2 , was twice as common in colicky infants as in non-colicky infants. The clinical significance of this association remains to be examined.

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