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EFFECTIVENESS OF POSTURAL THERAPY IN INFANTS WITH FREQUENT INTESTINAL COLIC

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Summary

Infantile colic is a general term used to describe excessive crying, abdominal pain, and discomfort in the first months of life, and it causes stress for parents and concern for clinicians. Colic in babies is common all over the world. The Rome criteria offer diagnostic criteria for functional gastrointestinal symptoms but do not discuss their treatment. Manipulative treatments are considered effective interventions to reduce the severity of symptoms.

The aim of the study. *To evaluate the effectiveness of postural therapy in infants with intestinal colic.*

Methods. *The current prospective cohort study used data from a mother-child cohort. 37 "mother-child" pairs (age of babies from 2 weeks to 4 months) were under observation. Two observation groups were created by the method of simple randomization: Group I - 17 infants who received traditional therapy (preparations based on simethicone, prokinetics, enzymes, antispasmodics, in case of significant flatulence, a gas removal tube or microenema was used), Group II - 20 infants who received postural therapy.*

To reveal the statistical difference between indicators in groups distributed normally, the Student's t-criterion of reliability was used, the degree of significance - r. The probability of the difference between relative values was determined by the Fisher's angular transformation method (Pφ).

The research design and all the methods used in this study were reviewed and approved by the bioethics commission of the Bukovinian State Medical University (protocol No. 8, dated 02/17/2023).

The study was carried out as part of the research work «Early diagnosis, treatment and prevention of combined pathology of the gastrointestinal tract and thyroid gland in children» (state registration number 0116U002937, implementation period 02.2016-11.2022).

Results of the study. *In 81.1% of babies, colic started after the 2nd week of life, in 18.9% - after the 1st month of life. The average age of onset of symptoms was 1.1 ± 0.1 months. Initially, colic occurred less often (1-2 times a week) and lasted up to 15 minutes, with age, their frequency and duration increased. We identified the main risk factors for the development of colic in babies: younger age of parents (F = 0.529, p = 0.001), mother's smoking (F = 0.498, p = 0.01), hypodynamia of the mother during pregnancy (F = 0.511, p = 0 .02), positive history of the father regarding functional diseases of the gastrointestinal tract (F = 0.788, p= 0.004), positive history of the mother regarding functional diseases of the gastrointestinal tract (F = 0.489, p= 0.01), food allergy in the mother (Φ = 0.476, p = 0.02), food allergy in the father (F = 0.329, p = 0.05), early (up to 3 months) transfer of the child to mixed or artificial feeding (F = 0.324, p = 0.05), hypoxic-ischemic CNS damage (F = 0.467, p = 0.05), body weight at birth <2900 g (F = 0.531, p = 0.01). The dynamics of symptoms in children of both observation groups was almost the same, with the exception of such signs of colic as flatulence and grunting, which disappeared faster by 2.7±0.6 days in children who were on postural therapy. The frequency of colic attacks also decreased. Positive dynamics of body weight gain were noted in infants of both groups.*

Conclusions.

1. The average age of onset of intestinal colic symptoms in infants was 1.1 ± 0.1 months.

2. The relationship between the age of the parents, the mother's smoking and the mother's hypodynamia during pregnancy, a positive history of the parents regarding functional diseases of the gastrointestinal tract, hypoxic-ischemic lesions of the central nervous system and a birth weight of less than 2900 g and intestinal colic in infants was established.

3. The use of postural therapy in infants with intestinal colic is an effective method of their treatment, which is confirmed by the positive dynamics of symptoms, a decrease in the frequency and duration of colic attacks, a sufficient increase in body weight and does not require the cost of medication.

Key words: *Babies; Intestinal Colic; Postural Therapy.*

Infant colic is a general term used to describe excessive crying, abdominal pain, and discomfort in the first months of life, and it can cause stress and anxiety for parents and clinicians. Colic in babies is common all over the world. They are registered from 6% [1] 9.3% [2] to 23% [3] of infants. According to Rome Criteria IV, Section G4, the diagnostic features are: recurrent, prolonged periods of crying, restlessness, or irritability for which there is no obvious cause and which cannot be relieved by home remedies; the age of the infant is less than 5 months at the time of onset or cessation of symptoms; absence of signs of delayed physical development and other diseases [4]. According to these criteria, the prevalence of infantile colic is 10-15%, while according to the Roman III criteria, it is 6% [1, 5]. Although the algorithms attempt to separate the various functional gastrointestinal symptoms, in real life many infants actually have a combination of these symptoms [6]. About half of infants have one or more functional gastrointestinal symptoms, with regurgitation, constipation, and colic each accounting for approximately 20-25%. Currently, factors contributing to the development of baby colic are considered to be the morpho-functional immaturity of the autonomic nervous

system and peripheral innervation of the intestine, the immaturity of the enzymatic system of the digestive organs, disturbances in the formation of the intestinal microbiome in children in the first months of life, peculiarities of the qualitative composition of intestinal gas, hyperperistalsis of the intestine, which leads to temporary digestion and absorption disorders [7-11]. Functional gastrointestinal symptoms are almost never a reason to stop breastfeeding, but general practitioners and pediatricians, when parents ask for advice about such manifestations, very often change the nutritional formula, namely, change the infant formula. However, the Rome criteria offer diagnostic criteria for functional gastrointestinal symptoms but do not discuss their treatment. The NHS reported that the treatment of functional gastrointestinal disorders cost more than £65 million per year [12]. Although colic usually resolves in infants by six months of age, there is some evidence of long-term consequences for both children and parents [13]. Manipulative treatments such as manual therapy and osteopathy have been suggested as interventions to reduce the severity of symptoms [14].

As double-blind, placebo-controlled, prospective intervention trials are very limited in this field, we attempted in this article to provide a first summary of the results of postural therapy in children with intestinal colic.

Aim

To evaluate the effectiveness of postural therapy in infants with intestinal colic.

Methods

The current prospective cohort study used data from a "mother-child" cohort. 37 "mother-child" pairs (age of babies from 2 weeks to 4 months) were under observation. The average age of children at the time of diagnosis was 2.3±0.1 months. The main symptoms were crying (100%) and vomiting (100%). Criteria for inclusion in the study: full-term children aged 2 weeks to 4 months, presence of signs of intestinal colic according to Rome IV criteria (section G4), weight gain for age, satisfactory general condition. Exclusion criteria of the study: premature children, age older than 4 months, presence of "red flags" (frequent regurgitation, fever, vomiting more than 5 times a day, respiratory distress, lethargy, presence of pathological impurities in stools, developmental delay, insufficient growth for age body weight). According to the results of the questionnaire of the parents of the babies, probable risk factors for the development of intestinal colic were analyzed.

Two observation groups were created by the method of simple randomization: Group I - 17 infants who received traditional therapy (preparations based on simethicone, prokinetics, enzymes, antispasmodics, in case of significant flatulence, a gas removal tube or microenema was used), Group II - 20 infants who received postural therapy after each awakening (1- lateral position: with one hand, as in everyday feeding, the mother holds the child and spreads her legs slightly to the sides, the other hand passes under the knee joint. The diaper should be loosened so that it does not press on the abdominal muscles; 2 - behind the back to the parents: the child should be supported under the knee joint, the baby's back rests on the mother's chest or is fixed by the hands of an adult). The effectiveness of the treatment was assessed by the general condition, quality of body weight gain, frequency and duration of colic attacks, regurgitation.

The data of clinical observations were statistically processed on a personal computer ACER Intel® Core™ i3-7020 CPU @ 2.30GHz in the operating system Windows 10 using the programs "Microsoft Office Excel" and "STATISTICA 10". The averaged data are given as M±m, where M is the arithmetic mean value, m is the error of the arithmetic mean. The normality of the distribution of indicators was assessed using the Shapiro-Wilk W-test. To reveal the statistical difference between indicators in groups distributed normally, the Student's t-criterion of reliability was used, the degree of significance - r. The probability of the difference between relative values was determined by the Fisher's angular transformation method (Pφ).

The research design and all the methods used in this study were reviewed and approved by the bioethics commission of the Bukovinian State Medical University (protocol No. 8, dated 02/17/2023).

The study was carried out as part of the research work «Early diagnosis, treatment and prevention of combined pathology of the gastrointestinal tract and thyroid gland in children» (state registration number 0116U002937, implementation period 02.2016-11.2022).

Results of the study

In 81.1% of babies, colic started after the 2nd week of life, in 18.9% - after the 1st month of life. The average age of onset of symptoms was 1.1 ± 0.1 months. The frequency of clinical signs in infants with intestinal colic is presented in Fig. 1.

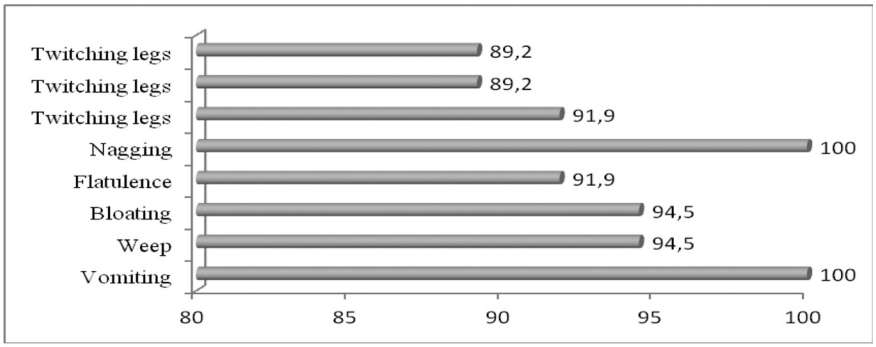

Fig. 1 Frequency of clinical symptoms in infants (%)

Initially, colic occurred less often (1-2 times a week) and lasted up to 15 minutes, with age, their frequency and duration increased (Fig. 2).

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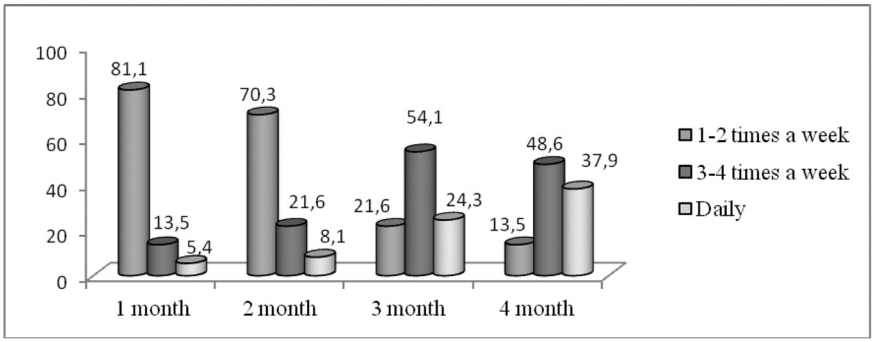

Fig. 2 Frequency of occurrence of colic in infants depending on age (%)

We identified the main risk factors for the development of colic in babies: younger age of parents (F = 0.529, p = 0.001), mother's smoking (F = 0.498, p = 0.01), hypodynamia of the mother during pregnancy (F = 0.511, p = 0 .02), positive history of the father regarding functional diseases of the gastrointestinal tract (F = 0.788, p= 0.004), positive history of the mother regarding functional diseases of the gastrointestinal tract (F = 0.489, p= 0.01), food allergy in the mother (F = 0.476, p = 0.02), food allergy in the father (F = 0.329, p = 0.05), early (up to 3 months) transfer of the child to mixed or artificial feeding (F = 0.324, p = 0.05), hypoxic-ischemic CNS damage (F = 0.467, p = 0.05), body weight at birth <2900 g (F = 0.531, p = 0.01).The use of traditional and postural therapy in babies with colic led to a gradual decrease in the severity of most symptoms (table).

Table

Dynamics of clinical symptoms in infants with intestinal colic depending on the method of treatment

Clinical sign	Group I (%) n=17			Group II (%) n=20			p
	3 days	7 days	10 days	3 days	7 days	10 days	
Vomiting	11,8	29,4	52,9	10,0	30,0	50,0	>0,05
Weep	5,8	35,3	52,9	15,0	30,0	50,0	>0,05
Bloating	17,6	35,3	47,1	15,0	30,0	50,0	>0,05
Flatulence	35,2	35,2	29,4	20,0	20,0	55,0	<0,05
Nagging	41,2	35,2	23,5	20,0	30,0	50,0	<0,05
Twitching legs	17,6	35,3	47,1	15,0	30,0	55,0	>0,05
Sleep disturbance	5,8	35,3	52,9	15,0	30,0	55,0	>0,05
Change in bowel movements	11,8	29,4	52,9	10,0	30,0	50,0	>0,05

Note: *p - probability, comparison with the group I*

By the 10th day of treatment, the main clinical symptoms of intestinal colic disappeared in most (91.9%) of the babies who were under observation. Only 8.1% of children had individual clinical symptoms (vomiting, stool pattern, flatulence). The dynamics of symptoms in children of both observation groups was almost the same, with the exception of such signs of colic as flatulence and grunting, which disappeared faster by 2.7±0.6 days in children who were on postural therapy. The frequency of colic attacks also decreased (Fig. 3). One infant of group I and 2 infants of group II, in whom the frequency of colic did not decrease, were diagnosed with lactase deficiency, which required additional administration of enzyme therapy. We noted positive dynamics of body weight gain in infants of both groups (average monthly gain of 660.5 ± 120.7 g and 674.8 ± 118.3 g, p<0.05).

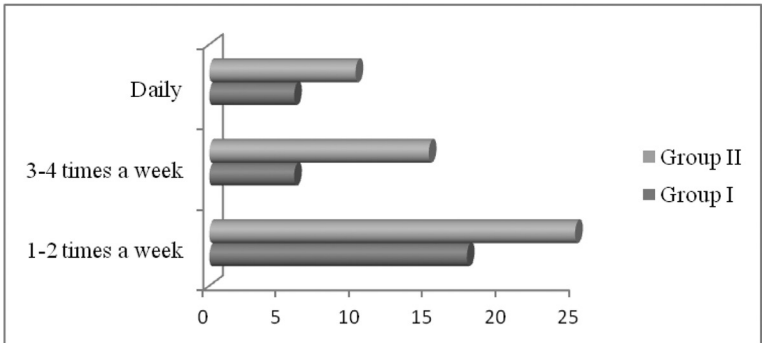

Fig. 3 The frequency of colic attacks in children depending on the method of treatment

Discussion

The prevalence of intestinal colic in infants is quite high, but it is higher among European infants [15] and lower among Asian infants [16]. A possible explanation for the differences in the prevalence of colic lies in the different interpretations of this condition. The results of the study [17] indicate that maternal perinatal health status associated with infant pain may be an important factor to consider in understanding the reporting and prevalence of colic, abdominal pain, and pain or other discomfort that lead to a visit to the doctor.

Our study found that colic was more often observed in the evening or at night. Like other researchers, we failed to find a significant difference in the prevalence of colic between exclusively breastfed and formula-fed infants, but early transfer of infants to mixed or formula feeding was a risk factor for the development of colic [18, 19]. In contrast to the study [20], we and other researchers [17] did not establish a relationship between the prevalence of colic in infants and the social status of parents. However, the conducted study showed a relationship between the age of the parents, smoking of the mother and hypodynamia of the mother during pregnancy, a positive history of the parents regarding functional diseases of the gastrointestinal tract, hypoxic-ischemic lesions of the central nervous system and body weight at birth of 2900 g and less and intestinal colic in infants. The importance of the influence of these factors was partially confirmed in the study [21].

We did not investigate the effect of cow's milk in the diet of a nursing mother on the incidence of intestinal colic in infants, but research [22-24] documented the effectiveness of removing cow's milk from the diet of a formula-fed infant and from the diet of a nursing mother. There are educational programs for preparing parents to deal with children's colic [25-27]. Also in the scientific literature there is data on the use of non-medicinal methods of eliminating intestinal colic [28-30]. Recently, attention has been drawn to the use of postural therapy in infants with intestinal colic, i.e. preventive holding and carrying, use of a baby carrier or landing to simulate a sitting position. This helps to relax the muscles of the small pelvis, and the pose with the legs tightly brought to the stomach helps to get rid of excessive gas accumulation, easing the condition of the child [17]. In our study, the use of progressive therapy in babies with intestinal colic showed a fairly high efficiency. Undoubtedly, such a practice does not guarantee 100% elimination of colic, but it usually helps to reduce their expression and has a number of advantages, namely, reducing the financial costs of medicines and forming a special emotional contact between the baby and the parents, which will create a foundation for trusting relationships in the future.

Conclusions

1.The average age of the onset of symptoms of intestinal colic in infants was 1.1 ± 0.1 months and were manifested by crying and vomiting (100%).

2.The relationship between the age of the parents, the mother's smoking and the mother's hypodynamia during pregnancy, a positive history of the parents regarding functional diseases of the gastrointestinal tract, hypoxic-ischemic lesions of the central nervous system and a birth weight of less than 2900 g and intestinal colic in infants was established.

3.The use of translational therapy in infants with intestinal colic is an effective method of their treatment, which is confirmed by the positive dynamics of symptoms, a decrease in the frequency and duration of colic attacks, a sufficient increase in body weight and does not require the cost of medication.

Reference

1. de Morais MB, Toporovski MS, Tofoli MHC, Barros KV, Silva LR, Ferreira CHT. Prevalence of Functional Gastrointestinal Disorders in Brazilian Infants Seen in Private Pediatric Practices and Their Associated Factors. J Pediatr Gastroenterol Nutr. 2022;75(1):17-23. doi: 10.1097/MPG.0000000000003469

2. Cordeiro Santos ML, da Silva Júnior RT, de Brito BB, França da Silva FA, Santos Marques H, Lima de Souza Gonçalves V, et al. Non-pharmacological management of pediatric functional abdominal pain disorders: Current evidence and future perspectives. World J Clin Pediatr. 2022;11(2):105-19. doi: 10.5409/wjcp.v11.i2.105

3. Muhardi L, Aw MM, Hasosah M, Ng RT, Chong SY, Hegar B, et al. A Narrative Review on the Update in the Prevalence of Infantile Colic, Regurgitation, and Constipation in Young Children: Implications of the ROME IV Criteria. Front Pediatr [Internet]. 2022[cited 2023 Feb 28];9:778747. Available from: https://www.frontiersin.org/articles/10.3389/fped.2021.778747/full doi: 10.3389/fped.2021.778747

4. Drossman DA, Hasler WL. Rome IV-Functional GI Disorders: Disorders of Gut-Brain Interaction. Gastroenterology. 2016;150(6):1257-61. doi: 10.1053/j.gastro.2016.03.035

5. Wei Z, Yang Q, Yang Q, Yang J, Tantai X, Xing X, et al. Rome III, Rome IV, and Potential Asia Symptom Criteria for Functional Dyspepsia Do Not Reliably Distinguish Functional From Organic Disease. Clin Transl Gastroenterol [Internet]. 2020[cited 2023 Feb 28];11(12):e00278. Available from: https://journals.lww.com/ctg/Fulltext/2020/12000/Rome_III,_Rome_IV,_and_Potential_Asia_Symptom.12.aspx doi: 10.14309/ctg.0000000000000278

6. Huang H, Wang C, Lin W, Zeng Y, Wu B. A population-based study on prevalence and predisposing risk factors of infant functional gastrointestinal disorders in a single center in Southern Fujian. Front Pediatr [Internet]. 2022[cited 2023 Feb 28];10:993032. Available from: https://www.frontiersin.org/articles/10.3389/fped.2022.993032/full doi: 10.3389/fped.2022.993032

7. Gordon M, Biagioli E, Sorrenti M, Lingua C, Moja L, Banks SS, et al. Dietary modifications for infantile colic. Cochrane Database Syst Rev [Internet]. 2018[cited 2023 Feb 28];10(10):CD011029. Available from: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011029.pub2/full doi: 10.1002/14651858.CD011029.pub2

8. Ahmed M, Billoo AG, Iqbal K, Memon A. Clinical Efficacy Of Lactase Enzyme Supplement In Infant Colic: A Randomised Controlled Trial. J Pak Med Assoc. 2018;68(12):1744-7.

9. Li X, Xu Y. Unraveling the Molecular Mechanisms of Fructus Anisi Stellati as a Remedy for Infantile Colic by Network Pharmacology. Evid Based Complement Alternat Med [Internet]. 2020[cited 2023 Feb 28];2020:9210304. Available from: https://downloads.hindawi.com/journals/ecam/2020/9210304.pdf doi: 10.1155/2020/9210304

10. Mai T, Fatheree NY, Gleason W, Liu Y, Rhoads JM. Infantile Colic: New Insights into an Old Problem. Gastroenterol Clin North Am. 2018;47(4):829-44. doi: 10.1016/j.gtc.2018.07.008

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11. Kim JH, Lee SW, Kwon Y, Ha EK, An J, Cha HR, et al. Infantile Colic and the Subsequent Development of the Irritable Bowel Syndrome. J Neurogastroenterol Motil. 2022;28(4):618-29. doi: 10.5056/jnm21181

12. Glanville J, Ludwig T, Lifschitz C, Mahon J, Miqdady M, Saps M, et al. Costs associated with functional gastrointestinal disorders and related signs and symptoms in infants: a systematic review protocol. BMJ Open [Internet]. 2016[cited 2023 Feb 28];6(8):e011475. Available from: https://bmjopen.bmj.com/content/bmjopen/6/8/e011475.full.pdf doi: 10.1136/bmjopen-2016-011475

13. Narang M, Shah D. Oral lactase for infantile colic: a randomized double-blind placebo-controlled trial. BMC Pediatr [Internet]. 2022[cited 2023 Feb 28];22(1):468. Available from: https://bmcpediatr.biomedcentral.com/counter/pdf/10.1186/s12887-022-03531-8.pdf doi: 10.1186/s12887-022-03531-8

14. Dobson D, Lucassen PL, Miller JJ, Vlieger AM, Prescott P, Lewith G. Manipulative therapies for infantile colic. Cochrane Database Syst Rev [Internet]. 2012[cited 2023 Feb 28];12:CD004796. Available from: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD004796.pub2/full#0 doi: 10.1002/14651858.CD004796.pub2

15. Steutel NF, Zeevenhooven J, Scarpato E, Vandenplas Y, Tabbers MM, Staiano A, et al. Prevalence of Functional Gastrointestinal Disorders in European Infants and Toddlers. J Pediatr. 2020;221:107-14. doi: 10.1016/j.jpeds.2020.02.076

16. Chia LW, Nguyen TVH, Phan VN, Luu TTN, Nguyen GK, Tan SY, et al. Prevalence and risk factors of functional gastrointestinal disorders in Vietnamese infants and young children. BMC Pediatr [Internet]. 2022[cited 2023 Feb 28];22(1):315. Available from: https://bmcpediatr.biomedcentral.com/counter/pdf/10.1186/s12887-022-03378-z.pdf doi: 10.1186/s12887-022-03378-z

17. Despriee ÅW, Mägi CO, Småstuen MC, Glavin K, Nordhagen L, Jonassen CM, et al. Prevalence and perinatal risk factors of parent-reported colic, abdominal pain and other pain or discomforts in infants until 3 months of age - A prospective cohort study in PreventADALL. J Clin Nurs. 2022;31(19-20):2784-96. doi: 10.1111/jocn.16097

18. Vandenplas Y, Hauser B, Salvatore S. Functional Gastrointestinal Disorders in Infancy: Impact on the Health of the Infant and Family. Pediatr Gastroenterol Hepatol Nutr. 2019;22(3):207-16. doi: 10.5223/pghn.2019.22.3.207

19. Gondim MMBB, Goulart AL, Morais MB. Prematurity and functional gastrointestinal disorders in infancy: a cross-sectional study. Sao Paulo Med J. 2022;140(4):540-6. doi: 10.1590/1516-3180.2021.0622.R1.29102021

20. Canivet CA, Ostergren PO, Rosén AS, Jakobsson IL, Hagander BM. Infantile colic and the role of trait anxiety during pregnancy in relation to psychosocial and socioeconomic factors. Scand J Public Health. 2005;33(1):26-34. doi: 10.1080/14034940410028316

21. Scarpato E, Salvatore S, Romano C, Bruzzese D, Ferrara D, Inferrera R, et al. Prevalence and Risk Factors of Functional Gastrointestinal Disorders: A Cross-Sectional Study in Italian Infants and Young Children. J Pediatr Gastroenterol Nutr. 2023;76(2):e27-35. doi: 10.1097/MPG.0000000000003653

22. Al-Beltagi M, Saeed NK, Bediwy AS, Elbeltagi R. Cow's milk-induced gastrointestinal disorders: From infancy to adulthood. World J Clin Pediatr. 2022;11(6):437-54. doi: 10.5409/wjcp.v11.i6.437

23. Kansu A, Yüce A, Dalgıç B, Şekerel BE, Çullu-Çokuğraş F, Çokuğraş H. Consensus statement on diagnosis, treatment and follow-up of cow's milk protein allergy among infants and children in Turkey. Turk J Pediatr. 2016;58(1):1-11. doi: 10.24953/turkjped.2016.01.001

24. Fiocchi A, Barrio-Torres J, Dupont C, Howells HE, Shamir R, Venter C, et al. Hydrolyzed rice formula for dietary management of infants with cow's milk allergy. World Allergy Organ J [Internet]. 2022[cited 2023 Feb 28];15(12):100717. Available from: https://www.worldallergyorganizationjournal.org/article/S1939-4551(22)00093-X/fulltext doi: 10.1016/j.waojou.2022.100717

25. Gordon M, Gohil J, Banks SS. Parent training programmes for managing infantile colic. Cochrane Database Syst Rev [Internet]. 2019[cited 2023 Feb 28];12(12):CD012459. Available from: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD012459.pub2/full#0 doi: 10.1002/14651858.CD012459.pub2

26. Barlow J, Bergman H, Kornør H, Wei Y, Bennett C. Group-based parent training programmes for improving emotional and behavioural adjustment in young children. Cochrane Database Syst Rev [Internet]. 2016[cited 2023 Feb 28];2016(8):CD003680. Available from: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD003680.pub3/full#0 doi: 14651858.CD003680.pub3

27. Bemanalizadeh M, Badihian N, Khoshhali M, Badihian S, Hosseini N, Purpirali M, et al. Effect of parenting intervention through "Care for Child Development Guideline" on early child development and behaviors: a randomized controlled trial. BMC Pediatr [Internet]. 2022[cited 2023 Feb 28];22(1):690. Available from: https://bmcpediatr.biomedcentral.com/counter/pdf/10.1186/s12887-022-03752-x.pdf doi: 10.1186/s12887-022-03752-x

28. Buffone F, Monacis D, Tarantino AG, Dal Farra F, Bergna A, Agosti M, et al. Osteopathic Treatment for Gastrointestinal Disorders in Term and Preterm Infants: A Systematic Review and Meta-Analysis. Healthcare (Basel) [Internet]. 2022[cited 2023 Feb 28];10(8):1525. Available from: https://www.mdpi.com/2227-9032/10/8/1525 doi: 10.3390/healthcare10081525

29. Gorka AM, Nauta F, Bijlsma MW, et al. Current treatment practice of functional abdominal pain disorders in children: A multicenter survey. Indian J Gastroenterol. 2022;41(4):369-377. https://doi.org/10.1007/s12664-022-01253-4

30. Carnes D, Plunkett A, Ellwood J, Miles C. Manual therapy for unsettled, distressed and excessively crying infants: a systematic review and meta-analyses. BMJ Open [Internet]. 2018[cited 2023 Feb 28];8(1):e019040. Available from: https://bmjopen.bmj.com/content/bmjopen/8/1/e019040.full.pdf doi: 10.1136/bmjopen-2017-019040

ЕФЕКТИВНІСТЬ ЗАСТОСУВАННЯ ПОСТУРАЛЬНОЇ ТЕРАПІЇ У НЕМОВЛЯТ ІЗ ЧАСТИМИ КИШКОВИМИ КОЛЬКАМИ

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(Україна, Чернівці)

Резюме

Дитячі кольки – це загальний термін, який використовується для позначення надмірного плачу, болю в животі та дискомфорту в перші місяці життя, і вони викликають стрес у батьків та занепокоєння в клініцистів. Кольки у немовлят розповсюджені в усьому світі. Римські критерії пропонують діагностичні критерії для функціональних симптомів шлунково-кишкового тракту, але не обговорюють їх лікування. Маніпулятивні методи лікування розглядаються як ефективні втручання для зменшення тяжкості симптомів.

Мета. Оцінити ефективність постуральної терапії в немовлят із кишковими кольками.

Матеріали і методи. У поточному проспективному когортному дослідженні використовувалися дані, отримані від когорти «мати-дитина». Під спостереженням знаходилися 37 пар «мати-дитина» (вік немовлят від 2 тижнів до 4 місяців). Методом простої рандомінізації створено дві групи спостереження: I група – 17 немовлят, які отримували традиційну терапію (препарати на основі симетикону, прокінетики, ферменти, спазмолітики, при значному метеоризмі застосовували газовідвідну трубку чи мікроклізму), II група – 20 немовлят, яким виконували постуральну терапію.

Для виявлення статистичної різниці між показниками в групах, розподілених нормально, застосовувався t-критерій достовірності Ст'юдента, ступінь значимості – p. Вірогідність різниці між відносними величинами визначалася методом кутового перетворення Фішера (Рφ).

Дизайн дослідження та всі методи, використані в цьому дослідженні, розглянуто та схвалено комісією з біоетики Буковинського державного медичного університету (протокол № 8 від 17.02.2023).

Дослідження проведено в рамках науково-дослідної роботи «Рання діагностика, лікування і профілактика поєднаної патології шлунково-кишкового тракту та щитоподібної залози у дітей» (номер державної реєстрації 0116U002937, термін виконання 02.2016-11.2022 рр.).

Результати. У 81,1% немовлят кольки розпочиналися після 2 тижня життя, у 18,9% - після 1-го місяця життя. Середній вік появи симптомів становив 1,1 ± 0,1 місяця. Спочатку кольки виникали рідше (1-2 рази на тиждень) та тривали до 15 хвилин, з віком їх частота та тривалість збільшувалися. Нами виділено основні фактори ризику розвитку кольки у немовлят: молодший вік батьків (Ф = 0,529, p = 0,001), тютюнопалінням матері (Ф = 0,498, p= 0,01), гіподинамія матері під час вагітності (Ф = 0,511, p = 0,02), позитивний анамнез у батька щодо функціональних захворювань шлунково-кишкового тракту (Ф = 0,788, p= 0,004), позитивний анамнез у матері щодо функціональних захворювань шлунково-кишкового тракту (Ф = 0,489, p= 0,01), харчова алергія у матері (Ф = 0,476, p = 0,02), харчова алергія у батька (Ф = 0,329, p = 0,05), раннє (до 3 місяців) переведення дитини на змішане або штучне вигодовування (Ф = 0,324, p = 0,05), гіпоксично-ішемічне ураження ЦНС (Ф = 0,467, p = 0,05), маса тіла при народженні <2900г (Ф = 0,531, p = 0,01). Динаміка симптомів у дітей обох груп спостереження була майже однаковою, за виключенням таких ознак кольки як метеоризм та бурчання, які в дітей, що знаходилися на постуральній терапії, зникали швидше на 2,7±0,6 дні. Зменшувалася також частота нападів кольки. Відзначено позитивну динаміку прибавки маси тіла у немовлят обох груп.

Висновки

1. Середній вік появи симптомів кишкових кольок у немовлят становив 1,1 ± 0,1 місяця.
2. Встановлено зв'язок між віком батьків, тютюнопалінням матері та гіподинамією матері під час вагітності, позитивним анамнезом у батьків щодо функціональних захворювань шлунково-кишкового тракту, гіпоксично-ішемічним ураженням ЦНС та масою тіла при народженні менше 2900г та кишковими кольками у немовлят.
3. Застосування постуральної терапії у немовлят із кишковими кольками є ефективним методом їх лікування, що підтверджується позитивною динамікою симптомів, зменшенням частоти та тривалості нападів кольки, достатньою прибавкою маси тіла та не потребує витрат на ліки.

Ключові слова: немовлята; кишкові кольки; постуральна терапія.

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