

Breastfeeding as a Method of Non-Drug Analgesia in Newborns

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Abbreviations: BCG: Bacillus Calmette-Guerin.

Introduction

For a long time, it was believed that children are resistant to pain, and the benefits of the treatment is much more important than the emotional reaction of the child. Until the mid-1970s, adequate analgesia in the neonatal period was not performed, based on the belief of the immaturity of peripheral pain receptors, incomplete myelination of conductive nerve fibers [1,2].

Currently, it is proved that the pain suffered during the neonatal period, disrupts the development of nociception and leads to irreversible functional and structural changes in the Central nervous system, thereby changing the "program" of the response to pain in the future. All this is of later behavioral and psychological consequences [3].

The increased interest in the problem of pain in children in recent years is explained by the revealed severe consequences of uncontrolled pain suffered during the neonatal period. Such consequences of severe uncontrolled pain as the risk of intraventricular hemorrhages, sepsis, periventricular leukomalacia, brain ischemia is proved.

During the stay in the maternity hospital, and even more so in the hospital, full-term and especially premature newborns tolerate many manipulations and procedures, most of which are quite painful.

Adequate analgesia and pain prevention in manipulations and procedures can reduce the discomfort of the child, minimize hormonal and metabolic changes in response to stress, improve the tolerability of medical manipulations and care procedures.

Objective

To study non-pharmacological methods of anesthesia during various painful manipulations in the neonatal Department: vaccination against hepatitis B and BCG, intramuscular injection of vitamin K (sodium Menadione), neonatal screening.

Methods

The study was conducted in the neonatal Department from May to July 2018 in State budgetary institution of the Moscow region "Balashikha maternity hospital". The study included 140 infants with a gestational age 38-41 week, at the age of 1-4 days of life. All children in the Department according to the standard of medical care

were performed 4 painful manipulations: intramuscular injection of menadione sodium, vaccination against hepatitis B and tuberculosis, neonatal screening.

All newborns were divided into 4 groups: 1 group (30 children), children separated from the mother by medical indications from the mother (stay of the mother in the intensive care unit) and who were not anesthetized, 2 group (30 children) children who underwent painful manipulations on the hands of the mother, 3 group (30

children) children who underwent painful manipulations 10-15 minutes after breastfeeding, 4 group (50 children) children who underwent painful manipulations during breastfeeding [4,5].

To assess the pain in newborns selected evaluation scale (FLACC: face, legs, activity, cry, cancelability) [6]. This method evaluates pain by five behavioral characteristics, respectively-facial expression, leg movement, mobility, crying and consolation (Table 1).

Categories	Scoring		
	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant frown, quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid, or jerking
Cry	No cry (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or being talked to; distractible	Difficult to console or comfort

Table 1: Each of the five categories Face (F), Legs (L), Activity (A), Cry (C), and Consolability (C) is scored from 0-2, which results in a total score between 0 and 10 [6].

Results

When carrying out painful manipulations (vaccination and intramuscular injection of sodium menadione), the total score of pain and discomfort in a newborn.

In group 1: (N-30: mean 3.5 \ median-4 \ min-2 \ max-4), during blood sampling for neonatal screening (N-30: mean 6.33 \ median-6 \ min-5 \ max-7)

In group 2 (vaccination and intramuscular injection of menadione sodium) N-30: mean 2.4 \ median-2 \ min-2 \ max-3, during blood sampling for neonatal screening (N-30: mean 3.66 \ median-3.5 \ min-3 \ max-5)

In group 3: (vaccination and intramuscular injection of sodium menadione) total score (N-30: mean 1.86 \ median-2 \ min-1 \ maximum-3), during blood sampling for neonatal screening (N-30: mean 2.9 \ median-3 \ min-1 \ Max-4)

In group 4: (vaccination and intramuscular injection of sodium menadione) total score was (N-50: mean 0.7 \ median-1 \ min-0 \ max-2), during blood sampling for neonatal screening during blood sampling for neonatal screening (N-50: mean 1.5 \ median-1.5 \ min-1 \ Max-2) p=0.05 (Table 2).

1 group		2 group		3 group		4 group	
injection	neonatal screening	injection	neonatal screening	injection	neonatal screening	injection	neonatal screening
mean 3.5	6.33	mean 2.4	3.66	mean 1.86	2.9	mean 0.7	1.5
median-4	6	median-2	3.5	median-2	3	median-0	1.5
min-2	5	min-2	3	min-1	1	min-1	1
max-4	7	max-3	5	max-3	4	max-2	2

Table 2: The total score of pain and discomfort in a newborn.

Conclusion

The most effective and safe method of anesthesia was breastfeeding during painful manipulations. Especially this method proved to be good during blood sampling for neonatal screening, as it turned out to be the most painful manipulation in the neonatal Department. Taking into account the results obtained, and taking into account the data of international studies on this issue, in our maternity hospital it was decided to perform all painful manipulations in newborns on the breast of the mother [7,8].

Conflict of Interest

The authors of the study declare that there is no conflict of financial interests in connection with the preparation and conduct of this study, as well as the lack of any financial support for research.

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