AMERICAN JOURNALS
Open Access, Peer Reviewed Journals

American Journal of Technology and Applied Sciences
ISSN (E): 2832-1766| Volume 20, January, 2024

EVALUATION OF THE EFFECTIVENESS OF COMPLEX THERAPY OF VITAMIN D-DEFICIENT RICKETS WITH THE USE OF APRICOT OIL AND AEVIT IN CHILDREN

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ABSTRACT

In children with rickets, significant changes in the composition of higher fatty acids have been identified. The depth of changes in the composition of higher fatty acids depended on the severity of the pathological process. The revealed violations of the composition of higher fatty acids were corrected using apricot oil and Aevit, the results of using corrective therapy with apricot oil and Aevit for the treatment of children with rickets are presented. The effectiveness of this method of treatment of children with rickets is shown.

KEYWORDS

Rickets, children apricot oil, aevitum, fatty acids, efficiency, treatment.

Introduction

It is known that rickets is a very common disease and remains one of the most urgent problems of pediatrics. The severe form of this disease is rare, but mild and moderate forms are more common. The disease predisposes children to various diseases, and the complications caused by the disease can persist throughout the child's life [1,3,6,12,15]. Rickets has a negative effect on the growth and development of early children [4,5,7,10,14]. As a result of vitamin D-deficiency in the disease, there is a violation of the exchange process in all links of the metabolism, including a violation of lipid metabolism.

The lipid imbalance observed in rickets affects the metabolism of calcium and phosphorus and the proportion of these minerals in bone [1,2,8,11,18]. Therefore, the study of lipid metabolism in children with early rickets is of great importance. Currently, the study of the physiological role of unsaturated fatty acids in lipid metabolism, including rickets, is of great importance. As a result of a lack of unsaturated fatty acids, the child's body becomes prone to diseases, kidney function is impaired, and platelet aggregation increases. This condition is associated with an increase in the amount of saturated fatty acids in the body [13,19,20,22].

It is known that nutrients, lipids affect the process of phosphorus-calcium metabolism, and the transport of these salts in the body directly depends on the structure and functional activity of biological membranes of fats. In this disease, the absorption of the specified minerals is disturbed. Inadequate

supply of unsaturated fatty acids to the body has a negative effect on the level of mineralization of the skeleton and the absorption of phosphorus-calcium salts [9,17,21,23].
Based on the above, it is important to study and improve lipid process in rickets.

THE PURPOSE OF THE STUDY

Evaluating the effectiveness of treatment using apricot kernel oil and aevit in children with rickets.

MATERIAL AND INSPECTION METHODS

Examinations were conducted in 83 children with rickets and 10 healthy children (control group). Acute course of rickets was noted in 41 children, subacute course in 42 children. I degree of the disease was detected in 36 children and II degree in 47 children.
The content of fatty acids in the examined patients was studied in the form of their methyl esters using the gas chromatography method [4]. Using the Folch method, lipids were isolated from blood serum. As a result of the identification, the following fatty acids were found in the blood serum:
S(16:0)-palmitin, S(16:1)-palmitolein, S(18:0)-stearin, S(18:1)-olein, S(18:2)-linole, S(18:3)–linolenic and S(20:4)–arachidone.

INSPECTION RESULTS AND THEIR DISCUSSION

The amount of fatty acids in the blood serum of children with rickets and their ratio to that of healthy children was analyzed. The test results are given in Table 1.

Table 1 Composition of fatty acids in blood serum of children with rickets

Fatty Acids	Control	Children with rickets	P<
C (16:0)	28,17±1,37	30,87±1,53	0,01
C (16:1)	2,70±0,22	1,38±0,64	0,05
C (18:0)	26,13±1,32	28,03±1,04	0,01
C (18:1)	0,90±0,13	0.66±0,6	0,01
C (18:2)	33,32±2,51	29,73±2,34	0,05
C (18:3)	2,41±0,45	2,58±0,50	0,01
C (20:4)	3,56±0,60	2,68±0,60	0,01

Note: R- for healthy children

As shown in the table, the amount of S(16:0), S(18:0) and S(18:3) is much higher, S(16:1), S(18:1), S(18:2) and S(20 :4) – the amount is reduced, that is, a violation of the parameters we studied in the lipid metabolism was detected.
In addition, the amount of fatty acids was determined in relation to the treatment method and the obtained results are given in Table 2.
The next step was to study whether the amount of fatty acids in the blood serum of children with rickets changes depending on the treatment method.
To correct the disorder of the lipid process, we used vegetable oil, i.e. apricot kernel oil, because apricot kernel oil is rich in unsaturated fatty acids and has high biological activity, has no side effects, and has a positive effect on the metabolic process in the child's body.

The 1st group (48) children with rickets received traditional treatment, the 2nd group (35) children with rickets were treated with modified traditional treatment, i.e. apricot seed oil and aevit. The obtained results are given in 2 tables.

Table 2 Fatty acids in relation to treatment in rickets composition and amount (%)

Fatty acids Conventional	Control	Conventional		Modified	
		M±м	P<	M±м	P<
C (16:0)	28,17±1,37	28,96±1,28	0,01	28,21±1,31	0,1
C (16:1)	2,70±0,22	1,62, ±0,43	0,01	2,55±0,30	0.1
C (18:0)	26,13±1,32	27,67±0,82	0,20	26,75±0,80	0,1
C (18:1)	0,90±0,13	0,76±0,10	0,20	0,92±0,10	0,1
C (18:2)	33,32±2,51	30,74±2,10	0,50	33,12±1,80	0,1
C (18:3)	2,41±0,45	2,П±0,45	0,05	2,73±0,45	0,1
C (20:4)	3,56±0,60	2,10±0.51	0,05	3,26±0,40	0,1

Note: R- for healthy children

Lipid imbalance in children who received traditional treatment, the effect of specific treatment on the body is primarily aimed at correcting the phosphorus-calcium process, therefore, the indicators of lipid metabolism were not moderated. This situation indicates the need to correct the current traditional treatment.

In most children with rickets, after correction of the treatment method, the content of fatty acids is moderated. The treatment method proved to be highly effective and this condition was determined based on the following results: S(16:0) - 28.21±1.31%, S(16:1) - 2.55±0.30%, S(18 :0) - 26.75±0.80%, S(18:1) - 0.92±0.10%, S(18:2) - 33.12±1.80%; S(18:3) -2.73±0.45%; C(20:4) - 3.26± 0.40%.

CONCLUSIONS

Thus, for the treatment of children with rickets, the use of apricot seed oil and aevit in combination with traditional medicine restores the metabolism of high fatty acids, improves the absorption of calcium and phosphorus, and ensures the high efficiency of the treatment.

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