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EFFECTS OF VITAMIN D THERAPY ON CELLULAR IMMUNITY IN CHILDREN WITH RICKETS

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The active form of vitamin D profoundly affects immune responses.Our objective was to evaluate the parameters of cellular immunity in infants with vitamin D deficient rickets and effects of vitamin D therapy on these parameters. 23 infants with rickets, age rang 2mo-1 yr were studied. They received water-soluble form of vitamin D 5000 IU per day for 3 weeks. Blood samples were collected before the therapy and 3 weeks later. Laboratory analyses included analysis of serum calcium, phosphorus and alkaline phopsphatase, lymphocyte subpopulations, lymphoproliferative response to PHA and DTH with PPD10U. Control group of 18 healthy infants age rang 28d to 1yr, was tested for similar parameters. Significant difference among the intervention group before and after the therapy and control group in percentage and absolute number of the lymphocyte subpopulations was not found. CD4/CD8 ratio is significantly lower in children with rickets than in children after the therapy ($P<0,01$) and in healthy control group ($P<0,01$) Mitogen induced lymphocyte stimulation shows significant lower values compared with control group($P<0,05$) and this ability was impruved after the therapy ($P<0,05$). DTH with PPD10U shows that there is a significant lower DTH responsiveness in children with rickets compared with those after the therapy ($P<0,01$), as well as control group ($P<0,01$). It is concluded that in infants with vitamin D deficient rickets functional lymphocyte parameters are more impaired than numeric and that they can be improved with vitamin D therapy.