THE EGYPTIAN JOURNAL OF IMMUNOLOGY Vol. 25 (1), 2018
Page: 105-111

The Effect of Breast Feeding on T-Lymphocyte Subpopulation

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Human milk plays an important role in the development and differentiation of the neonatal immune system. The relative immaturity of the neonatal immune system is largely compensated for by the bioactive constituents of breast milk. Yet, little is known about the effect of breast feeding on cellular immunity. This study demonstrates the effects of various milk feedings (breast, formula, mixed) on peripheral lymphocyte subsets (CD3, CD4, CD8) in normal full-term infants at the age of 4 to 8 months. It is a comparative study conducted on randomly selected 61 healthy full-term infants categorized according to the type of milk feeding. Infants were subjected to full history taking, thorough clinical examination as well as laboratory investigations including CBC, total and differential WBC count, CD3, CD4 and CD8 assessment by flowcytometry. Results showed significantly lower CD4 and higher CD8 percentages among breast-fed in comparison with artificially-fed and mixed-fed infants, while no significant difference was found regarding CD3. Comparing the artificially-fed and mixed-fed infants, no significant difference found regarding CD3, CD4 and CD8. It is concluded that Lymphocyte subset profiles in the early stages of life could be modulated by milk-feeding practices. Therefore, it is recommended to encourage breast feeding for its immune-modulating effect on the developing of the immune system that minimizes risk of infection and allergy.