

P1251

Poster Session V

Immunology, vaccination and host defences

EVALUATION OF LONG TERM IMMUNITY FOR TETANUS AND MEASLES IN SCHOOL AGE CHILDREN

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Objectives

Albanian national immunization program is complete and applied to nearly 100% of the children according to the schedule. It includes BCG, hepatitis B, DTP, *H.influenzae*, OPV. Pneumococcal ten valent vaccine was introduced from January 2011 with the scheme 3+0. The MMR immunization consists of 2 doses respectively at 12 months and 5 years. The aim of this study was to evaluate the antibodies response and their persistence for two different antigens: tetanus and measles, in two different age groups.

Methods

This is a cross-sectional study of antibodies prevalence, carried out in a time period of 6 months in three districts of Albania: Berat, Lezha and Kamëz. The children of two age groups 2.5-3 and 7-8 years were examined for tetanus and measles antibodies concentration. The blood samples were analyzed by ELISA. Result interpretation: *Tetanus antibody* level <0.01UI/ml non protective, 0.01-0.1 not lasting protection, 0.1-0.5 more lasting protection, 0.5-1.0 lasting protection, 1.1-5.0 long-lasting protection. *For Measles antibodies*, cut-off value: 10NTU (Nova Tech Units). Values higher than 11 NTU were considered long-lasting protective titers. Comparison of geometric means were evaluated by Mean White Wilcoxon test and Chi Square. Significance considered for p<0.05.

Results

We examined 257 children age group one and 343 of school age group. Analysis showed a titer of tetanus antibodies >0.01UI/ml, thus the vaccination coverage for tetanus is 100% at both, urban and rural areas for the three districts. A titer of antibodies <0.5 UI/ml, was found in a small number of the children, (43), a value for which a booster dose is recommended. Mean geometric titers were above 1UI/ml, namely hundred times above required minimums. The range of the values varied from 1.001 UI/ml to 1.865 UI/ml. Differences between age groups were insignificant. Among tested children of 7-8 years, titers remain high, denoting correctly implemented vaccination scheme.

Lasting protection for measles, respectively at 91.5% and 84 % for the districts of Berat and Lezha were found higher compared to Kamëz (82%). No significant difference was found between geometric mean of the titer of antibodies by age group (p=0.190). Values resulted were 17.15 and 16.12 NTU for both age groups.

Conclusions

- Basal vaccination is carried out rigorously, in all zones.
- Vaccination coverage for tetanus resulted 100% for the whole group of the children tested.
- Measles antibodies level was satisfying in 85% on average (R: 0.74-0.915 CI 95%)