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	영문	Comparative Sero-epidemiologic Survey for Measles in Two Primary Schools in Epidemic and Non-epidemic Area			
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진행 상황	연구완료(◎), 연구중( ) → 완료 예정 시기 :      년      월				

**BACKGROUND:** There was a measles outbreak in Youngduk County, Gyeongsangbuk-do between March and May, 2000. This county has two livelihood areas, one of which in southern part suffered from measles epidemic and the other in northern part did not. We conducted a comparative sero-epidemiologic survey on these two areas to evaluate the factors related to the epidemic and susceptibility in these populations.

**MATERIAL and METHOD:** We selected all the students of grade 3 and 5 in two primary schools, one in epidemic area and the other in the area without measles outbreak. We conducted a questionnaire survey on the parents and collected the vaccination record of each school. Cases of measles were defined collected from the report to Public Health Center. Serologic study on measles IgG and IgM antibody was done on all the students, two times in epidemic area and once in non-epidemic area.

**RESULT:** Attack rate of recent measles was 31.6% for epidemic area and 3.7% for non-epidemic area by combined clinical and serological criteria ( $p < 0.001$ ). Vaccination rate in the children of epidemic area was 96.4% and of non-epidemic area was 91.2 ( $p > 0.1$ ). The difference of resident area at the time of vaccination and acquired immunity rate was not significantly different between areas ( $p > 0.1$ ). Vaccine efficacy was 29.6% for epidemic area and 87.0% for epidemic area ( $p < 0.001$ ). Positive rate and level of the measles-specific IgG at the end of epidemic was significantly different between two areas (98.9% and median 10727 IU/ml in epidemic area, 85.9% and median 346 IU/ml in non-epidemic area,  $p < 0.001$ ). However, positive rate and level of IgG level was not significantly different between cases and non-cases of measles in both areas ( $p > 0.1$ ).

**CONCLUSION:** This outbreak took place in mostly vaccinated children. High vaccination rate was not effective in protection of the outbreak. Method of vaccination, likewise, does not seem to have an impact on the protection of the outbreak. Epidemic of measles in a community induced raise of IgG titer in all the population in the community, as well as those suffered from disease, more than 30 fold rise than those in the non-epidemic area. The results of IgG level and IgG positive rate suggests that re-establishment of protective level of IgG level to determine the criteria of qualitative evaluation for IgG is needed.

Key words : measles, outbreak, vaccine failure, vaccine efficacy, booster