

Prevalence of Polio and Non-polio Enteroviruses among the Children in Mongolia

Ichinkhorloo Bonduush^{1*}, Ali Kh¹, Ariuntugs S¹, Sainjargal Zagd¹, Suvd Purev¹, Oyunbileg Janchiv¹

¹ Public Health Institute

Background/Objective

Mongolia started recording acute flaccid paralysis (AFP) cases and collect samples for laboratory-based surveillance study since 1996. In 2000 WHO certified Mongolia as polio-free region. Since then in the follow-up phase to monitor and determine type of pathogen laboratory-based surveillance analysis of non-polio enteroviruses among healthy children and children with other clinical diagnoses from 0 to 5 years old have been conducting. The main purposes is to detect polio and non-polio enteroviruses from cases of acute flaccid paralysis and healthy children aged 1-15 years based on laboratory-based surveillance study

Method

190 stool samples from 95 AFP cases registered in Ulaanbaatar, province and districts from 2005 to May 2015 were collected and analyzed. For determination of non-polio enteroviruses totally 603 of stool samples of healthy children from 0 to 5 years old were collected from districts, 21 province centers and districts using WHO approved method from 2012 to May 2015. Stool extracts were grown in L20B and RD cell lines.

Result

10.5% (20) were non-polio enterovirus, 1.05% (2) were poliovirus from AFP cases (95). 30.0% (6) Echo virus, 20.0% (4) Coxsackie B, 10.0% (2) Coxsackie A and 40.0% (8) unknown non-polio enteroviruses were detected. Only one polio virus (Sabin type 1) was detected. By age groups showed that from total AFP cases 67.36% (64) were under 2 years old, 18.94% (18) 3-5 years old, 3.15% (3) 6-8 years old, 10.55% (10) were 9 year and older. 20.3% (123) enteroviruses were detected from healthy children. From them 63.3% (38) were Echo virus, 15.0% (9) were Cox B, 1.6% (1) were Cox A, 3.3% (2) were EV71, 16.6% (10) were unknown non-polio enteroviruses.

Conclusion

1. Non-polio enteroviruses were mostly (10.5%) detected from AFP cases.
2. Sabin poliovirus was not the main cause of AFP cases.
3. ECHO virus infection dominated among children under 5 years old.