[OBK-17-0022] Largest outbreak of hand and foot mouth disease (HFMD) in India at an altitude of 3524 meters (11,562 ft) in Leh, Kashmir, India.

November 27, 2017 - Research Article

Citation


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Abstract

Introduction: There is an increasing occurrence of Hand, Foot and Mouth Disease (HFMD) in India, Asia, and Australia. The largest ever outbreak in India is discussed in this paper. The geographic location of the case control study was in Leh province which has an average altitude over 3,000 meters (11,000 feet).

Objective: This case control study, and review was done to determine if there is evidence of an increase in HFMD. There is concern that the increase of HFMD will lead to an increase in the number of recorded cases. Methods: District Surveillance Unit (DSU) collected the data on a daily basis upon presentation of symptoms. The unit was comprised of: an epidemiologist, a pediatrician, and a District Health Officer (DHO). Results: There were four hundred and sixty-five confirmed cases of HFMD recorded in the study. Two hundred and sixty-one, 56%, of the cases were male. Two hundred and four, 44%, of the cases were female. The majority of cases affect children ages less than 5. Discussion: HFMD is usually a childhood disease. Adults who contract the disease are most often caregivers. HFMD is caused by a virus, most often one of the picornaviruses belonging to serotypes EV-A or less frequently the enterovirus EV-A71. EV-A71 infections may more often result in severe complications or death. Conclusion: Healthcare professionals and government oversight agencies must be vigilant in the detection and control of HFMD outbreaks. Appropriate protocol and incident reporting needs to be standardized.
ABSTRACT

Background

An estimated 32,000 children develop multidrug-resistant tuberculosis (MDR-TB; *Mycobacterium tuberculosis* resistant to isoniazid and rifampin) each year. Little is known about the optimal treatment for these children.

Methods and Findings

To inform the pediatric aspects of the revised World Health Organization MDR-TB treatment guidelines, we performed a systematic review and individual patient data meta-analysis describing treatment outcomes in children with MDR-TB. We analyzed data from 975 children from 18 countries; 731 (75%) had bacteriologically confirmed and 244 (25%) clinically diagnosed MDR-TB. The median age was 7.1 years. Of 910 (93%) children with documented HIV status, 359 (37%) were HIV-infected. Children with confirmed MDR-TB were more likely to be older, to be HIV-infected, to be malnourished, and to have severe disease on chest radiograph. Overall, 764 of 975 (78%) had a successful treatment outcome; 548/731 (75%) of the confirmed and 216/244 (89%) of the clinically diagnosed children. Treatment was successful in 56% of HIV-infected children who did not receive any antiretroviral treatment (ART) during MDR-TB therapy, compared to 82% in children who received ART during MDR-TB therapy. In children with confirmed MDR-TB, use of second-line injectable agents and high-dose isoniazid (15-20 mg/kg/day) were associated with treatment success. Among clinically diagnosed children, multivariable models were too unstable to provide estimates.

Limitation of this study was the difficulty of estimating the treatment effects of individual drugs, within multi-drug regimens; only observational cohort studies were available for inclusion and treatment decisions were based on the clinician’s perception of illness with resulting potential for bias.

Conclusions

This study confirms that children respond favorably to MDR-TB treatment. The low success rate in HIV-infected children who did not receive ART during their MDR-TB treatment highlights the need for ART in HIV-infected children with MDR-TB. Our study also provides evidence that high-dose isoniazid may improve treatment success.