

SHORT COMMUNICATION ΒΡΑΧΕΙΑ ΔΗΜΟΣΙΕΥΣΗ

Medical concerns and practical points in post-earthquake management

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Σπουδαιότητα και πρακτικά σημεία
για τους χειρισμούς μετά από σεισμούς

Περίληψη στο τέλος του άρθρου

Key words: Earthquake, Vaccination concern

INTRODUCTION

Among the many possible natural disasters is included the “earthquake”. Within the past decade, several major earthquakes have occurred around the world. Examples of recent big earthquakes are the Indonesian earthquake with the subsequent south east Asian tsunami in 2004, the Haiti earthquake in 2010 and the Sichuan earthquake in 2008.

Post-earthquake medical problems constitute an important concern in medicine. These problems include severe trauma and injury, emerging infectious diseases (wound infection, respiratory tract infection, gastrointestinal infection, etc.),¹ acute post traumatic stress disorder and mental disorders,² which are compounded by the limited facilities for laboratory investigations,³ and the poor control of chronic diseases, such as diabetes mellitus (DM), hypertension (HT), DLP, CRF.⁴ It should be noted that medical disorders, in any form, account for more than 50% of early deaths among survivors of a major disaster.

As a specialist with published work in this field,⁷ the author here extrapolates on the issue and shares some concerns on this topic, with discussion of practical points on management in the post-earthquake period.

INFECTION CONTROL AFTER AN EARTHQUAKE

Earthquake related infection is an important component of the spectrum of post-earthquake medical problems. Several infectious diseases can emerge in the post-earthquake situation and appropriate measures should be implemented to cope with this problem. The medical care unit is an important part of the rescue team in the disaster area. The provision of basic life support and primary nursing care is the main focus in the early phase, following which the setting up of the system for site diagnosis, site treatment and referral system needs to be ensured; then, “infection control” for the disaster area is another important thing to be addressed. This activity is aimed at stopping possible outbreaks of preventable infection in the specific area.

The prevalence of many infections is significantly increased in populations living in crowded unhealthy conditions. After a major earthquake, almost all houses and other buildings in the immediate area may be destroyed. Water and electricity supplies are suddenly curtailed. The survivors have to live in crowded circumstances under conditions of poor hygiene. In this situation a variety of infectious diseases usually emerge in the post-earthquake crisis. Many examples of this are documented; Oztürk reported “significant increase in intestinal parasitic infection in children in post-disaster situations years after earthquake”⁵ Volkow-Fernández et al noted that the outbreak of infection was usually related to the emergence of numerous patients without complete ability of response by the medical team.⁶ Such a “jammed up” situation can result in less careful application of infection control measures and this is a major topic of concern.⁶ There is no doubt that vaccination becomes a very important tool in the post-crisis stage. In every post-earthquake situation, the picture of immunization of the suffering local population can be seen, but this is not usually a regular activity. Hence, knowledge about the required vaccination and implementation of the appropriate vaccines is of prime importance.

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Summary of the vaccinations required in the after-earthquake situation

In addition to the treatment of infectious disease, application of preventive measures should be given priority. For prevention of epidemics, the importance of vaccination in the post-earthquake situation has been confirmed.⁷ In the management of the post-earthquake situation, many vaccines play an important role in infection control and vaccination is a required medical activity of the post-earthquake medical service.⁷

Administration of tetanus toxoid is the first measure that is an accepted requirement in any post-earthquake situation that results in numbers of injuries. In situations with a lack of clean water, wound care may not be effective and further wound infection and tetanus can be expected. Supplies for antitetanus vaccination and treatment of tetanus cases are thus necessary points in post-earthquake medical management.

Post-earthquake gastrointestinal disease constitutes another group of infections that necessitates good prevention. Vaccines available for prevention of post-earthquake gastrointestinal infections include hepatitis A vaccine and cholera vaccine. Hepatitis A virus (HAV) infection, which is a food borne disease, is of major concern. Increased HAV seroprevalence rates can be expected in post-earthquake situations, especially in the early post-earthquake period.⁸ The use of HAV vaccination, however, should be validated according to the epidemiological background in each setting. This can reflect the normal recommendation for HAV vaccination in each setting. Cholera is another important infection for which vaccine is available. The use of cholera vaccine is indicated in the post-earthquake situation according to WHO recommendations.⁹

Summary on post-earthquake vaccine and further consideration

As a summary, vaccination appears to be an important method of infection control in the post-earthquake situation. Of several vaccines, tetanus toxoid, hepatitis A and cholera vaccines are the three most useful vaccines recommended in the post earthquake crisis.¹

There are also some questions, however, related to the use of vaccines in the post-earthquake situation. The first common question is on the clinical usefulness. Although there has been no systematic evaluation on the efficacy of the various vaccines in the post-earthquake situation vaccination is accepted as an effective preventive measure. Systematic assessment with cost effectiveness analysis

on each vaccine might be useful in planning for disaster management. Based on principles of accident and disaster epidemiology, data from epidemiological surveillance can be applicable in the evaluation of the exact demands.

Secondly, there is discussion on how best to distribute vaccine to the people in the focus area. There is no doubt that when the infrastructure and transportation system are disrupted, major difficulties in application will occur. In addition, the local safe storage of the vaccine is usually impaired. In some emergency situations, the use of helicopter delivery of vaccines in the acute phase might be used, but this is usually inadequate. The success of the implementation demands a good level of preparedness.

ΠΕΡΙΛΗΨΗ

Σπουδαιότητα και πρακτικά σημεία για τους χειρισμούς μετά από σεισμούς

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Τα ιατρικά θέματα που προκύπτουν μετά από σεισμούς αποτελούν σημαντικά προβλήματα, όπως οι εμφανιζόμενες λοιμώξεις. Εκτός από την κατάλληλη αντιμετώπιση των λοιμώξεων απαιτείται προσπάθεια για την πρόληψή τους. Ο καταλληλότερος τρόπος φαίνεται ότι είναι οι προληπτικοί εμβολιασμοί στη μετά το σεισμό περίοδο. Ωστόσο, υπάρχουν επίσης αρκετές αμφιβολίες για τη χρήση των εμβολιασμών σε αυτή την έκτακτη περίπτωση. Στο παρόν άρθρο περιγράφεται η σπουδαιότητα των εμβολιασμών σε περίοδο μετά από σεισμούς, καθώς και τα προβλήματα που σχετίζονται με αυτούς.

Λέξεις ευρητηρίου: Εμβόλια, Σεισμοί

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