

Rabies Suspected Animal Contact Cases in a City with Animal Husbandry and the Appropriateness of Prophylactic Procedures

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SUMMARY

Objectives

This study aims to evaluate the features of rabies suspected animal contact cases in the emergency department and the appropriateness of administering post-exposure prophylaxis procedures according to World Health Organization (WHO) instructions.

Methods

Rabies suspected animal contact cases that applied to the emergency department between August 2012 and December 2013 were included in the study. Patients' data were obtained retrospectively from patient files, records of hospital automation system, and the "Rabies Suspected Animal Contact Cases Examination Form". The post-exposure prophylaxis recommended by the WHO were compared to the prophylactic applications administered by the emergency department.

Results

A total of 515 cases were included in the study. According to WHO classification, cases involving category 3 injuries (n=378, 73.4%) were more common than the others (p<0.0001). Compared to post-exposure prophylaxis recommendations by the WHO, 44.7% of all cases (n=230) were administered inappropriate prophylaxis. Thirty-seven percent of cases received less rabies Ig than recommended, despite category 3 contact. Six percent of cases with category 2 contact were given unnecessary rabies Ig and all cases with category 1 contact (1.5% of all cases) were given unnecessary rabies vaccine.

Conclusions

We observed that in 44.7% of cases, post-exposure prophylaxis was applied inappropriately according to WHO instructions. Not only were there unnecessary vaccine and Ig applications, there were also missing prophylaxis procedures. Updating the current "Rabies Prevention and Control Directive" plus educating and controlling healthcare personnel on a regular schedule may help prevent inadequacies in prophylactic application.

Key words: Post-exposure prophylaxis; rabies; World Health Organization contact category.

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Introduction

Rabies is a viral infection with a high mortality rate that spreads from animals and is currently seen in underdeveloped and developing countries.^[1] Approximately 80,000 rabies suspected animal contact cases are reported to the Ministry of Health in our country each year.^[2] Even though mortality has been reduced with precautions over the last twenty years, our country is the only European country where dog rabies still occurs.^[3] Due to more intensive animal husbandry and lower socioeconomic level compared to other regions, the East Anatolia Region is at critical risk.^[4]

In our country, it has been reported that rabies vaccine and rabies immunoglobulin (Ig) usage is unnecessarily high for rabies post-exposure prophylaxis applications.^[2,4-6] The World Health Organization (WHO) has categorized rabies suspected animal contacts into three categories and stated the recommended prophylactic approaches to be administered for each category.^[7] In our country, post-exposure prophylaxis is administered according to the “Rabies Prevention and Control Directive” published by Basic Health Care General Management, Ministry of Health.^[8] There are local studies that have evaluated post-exposure applications for rabies vaccine centers in our country, especially in the last decade. However, there are limited studies evaluating prophylactic applications according to WHO prophylaxis instructions.

This study aims to evaluate the features of rabies suspected animal contact cases which applied to the emergency department and the appropriateness of post-exposure prophylaxis procedures applied to these cases in light of the WHO instructions.

Material and Methods

This study was performed at the second base emergency department of Kars State Hospital, where approximately 210,000

patients are admitted per year. Approval from the local ethical committee was obtained before the study began. Rabies suspected animal contact was defined as all wild and domestic animal bites and scratches, and also contamination of mucous membrane or broken skin with saliva. All patients who applied to the emergency department between August 2012 and December 2013, and were assessed as rabies suspected animal contact cases were included in the study. Patients' data were obtained by a retrospective scan of patient files, records from the hospital automation system named Sisoft HBYS, and “Rabies Suspected Animal Contact Cases Examination Form”. Patients with missing data were excluded from the study.

Demographic information, legal domiciles of patients, time till application to the hospital, kind of animal contacted, facts about animal's vaccines and owner, forensic notification requirements of the case, type of contact, number and localization of injuries, treatments, and prophylaxis applications were all recorded on the data collection form. Recommended post-exposure prophylaxis depended on contact categories suggested by the WHO are given in Table 1. The post-exposure prophylaxis measures recommended by the WHO were compared to the prophylactic applications which were actually administered to the patients in the emergency department.

Statistical analyses were performed with “Statistical Package for Social Sciences (SPSS) for Windows version 21.0” (SPSS Inc., IL, USA). Quantitative data were described as the number of observations and their percentages (%), and qualitative data were marked with their mean±standard deviation (SD) or median (minimum-maximum). Statistical analyses were performed by chi-square test. In our results, $p < 0.05$ was considered significant.

Results

During the study, of 515 rabies suspected animal contact cas-

Table 1. Rabies suspected animal contact categories by WHO and recommended post-exposure prophylaxis applications

Categories of contact with suspect rabid animal	Post-exposure prophylaxis measures
Category 1 Touching or feeding animals, licks on intact skin	None
Category 2 Nibbling of uncovered skin, minor scratches or abrasions without bleeding	Immediate vaccination and local treatment of the wound
Category 3 Single or multiple transdermal bites or scratches, licks on broken skin; contamination of mucous membrane with saliva from licks, contacts with bats.	Immediate vaccination and administration of rabies immunoglobulin; local treatment of the wound

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