

# Rabies Vaccination in a Pediatric Patient with Acute Myeloid Leukemia during the Course of Chemotherapy: a Case report

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## Abstract

Rabies is a fatal neurological infection caused by rabies virus. The deadly rabies virus could enter into human body via the wound that has caused by mammal bite. Since rabies is a fatal disease without existing effective treatment, the best way is prevention. The widely examined preventive method for rabies is the use of post exposure rabies vaccination. In this specific case report, the author has presented an interesting case report of post exposure rabies vaccination in a pediatric patient with acute myeloid leukemia during the chemotherapy course.

**Key words:** Rabies; Vaccination; Leukemia

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## Introduction

Rabies is a fatal neurological infection caused by rabies virus. The deadly rabies virus could enter into human body via wound that has caused by mammal bite. The common rabies carriers have included dog, cat and bat. In the tropical countries, there are several dead cases due to rabies every year [1, 2]. Since rabies is a fatal disease without existing effective treatment, so the best way would be the prevention [1, 2]. The widely examined and common preventive method for rabies is the post exposure rabies vaccination usage [3, 4].

The usage of rabies vaccine in some of the specific groups has sounded interesting. In this specific case report, the author has presented an interesting case report of post exposure rabies vaccination in a pediatric patient with acute myeloid leukemia during the chemotherapy course.

## Case Report

This is a case study for consultation from the emergency department. A 14 years old boy has brought by his father to the physician. This patient has presented to the physician while the chief complaint was an acute open wound on his right foot. He has given the history that this wound has

caused by the wandering cat bite. The case was also the confirmed case of acute myeloid leukemia. On the above visit, the physician has also prescribed him the 2nd dosage of Cytostar course according to the schedule. So the physician has consulted with the expert to be suggested for post exposure rabies vaccination in this case.

Finally, the physician has been suggested to have standard post exposure rabies intramuscular vaccination for a full course (5 separated administrations at day 0, 3, 7, 14 and 28) as well as intradermal human rabies immunoglobulin.

Special additional, doubled dosage separated into equal dosage for injection at each arm deltoid, has also used in the specific first visit (day 0). For follow up, there was no side effect of rabies vaccination or undesirable effects during the course of chemotherapy of this patient.

## Discussion

Patients with acute myeloid leukemia have considered as difficult obscure immune compromised population. These patients have low immune deficiency system, and then the vaccination among these patients requires special considerations [5]. In this report, the author has discussed on the case study of post exposure rabies vaccination in a

boy with acute myeloid leukemia, in the same day with chemotherapy administration.

The main consideration was this point: Has this case really need the post exposure rabies vaccination? Based on the clinical data, it is apparently no doubt that the vaccination would be necessary.

There is no contraindication of rabies vaccination in the immune compromised host. Also, it has suggested that the immune compromised host might develop poor immunity In comparison with general health host [6, 7]. Hence, a doubled dosage on the first visit has recommended for the leukemic case. However, it should be deeply noticed that the present recommendation has not specifically mentioned for the any cases during the leukemic chemotherapy course. In this case, noticing this fact that the wound was an open wound and the patient has considered being an actual immune compromised stage, during the chemotherapy course, then the administration of the immunoglobulin has seemed to be necessary. This condition has never been reported in the medical literature.

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### Conflict of Interest

None

### Authors' Contribution

Viroj Wiwanitkit has collected and analyzed the data, then written and approved the whole paper.

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