There are elements of a startle response as it occurred as he was about to fall asleep but there was no echolalia or echopraxia as seen in latah (startle taxon). Simons[1] has regarded koro as a depersonalisation syndrome affecting the integrity of the body image in particular the genitals retracting into the abdomen. This patient has a similar description, the only difference being the tongue rather the penis was involved. There is no reason why retraction taxa cannot involve other organs and in this patient, there is a case for calling this a tongue retraction taxon, an addition to Simons' list of seven.

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Laboratory Acquired Murine Typhus – A Case Report

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Summary

A 34-year-old laboratory worker developed murine typhus after an accidental splashing of *Rickettsia typhi* over her right eye and lips. Indirect immunoperoxidase test showed a four-fold increase in titre to *Rickettsia typhi.* She responded well to doxycycline.

Key Words: Murine typhus, Laboratory acquired infection

Introduction

Murine typhus otherwise known as endemic typhus is a zoonotic disease which has a worldwide distribution. It is endemic in the tropical and subtropical countries especially in rat infested areas.

Microbiologists in the preantibiotic era often

succumbed to rickettsial infection due to lack of effective antirickettsial drugs during that period.

The main causes of laboratory acquired infections are often due to lack of adherence to laboratory safety precautions and inadequate laboratory safeguards.

We report here a case of laboratory-acquired murine typhus which occur in our rickettsial laboratory in charge of mass production of rickettsial antigen slides for the indirect immunoperoxidase test to be distributed to hospitals all over Malaysia.

Case History

Mrs A is a 34-year-old Junior Laboratory Assistant who works in the Rickettsial Laboratory, Institute for Medical Research. One of her routine tasks is to dot rickettsial antigens namely scrub typhus, tick typhus and murine typhus antigen on teflon coated slides for the indirect immunoperoxidase test.

The dotting of antigen is normally carried out in a class 2 biosafety laboratory cabinet. However one day she had difficulty in opening a microeppendorf tube containing *Rickettsia typhi* in yolk sac suspensions. The tube was brought close to her face, outside the safety cabinet. Forced opening of the microeppendorf tube caused accidental splashing onto her right eye and lips. She immediately rinsed the affected area with tap water and continued with her work.

The incident was however not reported because she thought rinsing the affected area would be sufficient to remove the antigen.

Four days later she developed sudden onset of fever, chills and rigors. She also complained of headache, myalgia, arthralgia, nausea and vomiting. She then visited a private doctor who gave her antipyretic drug, antiemetic and painkillers. She did not inform the doctor the nature of her work. Her symptoms persisted for the next 3 days.

Her absence from work alerted a fellow laboratory technician, who informed the safety officer regarding the laboratory accident.

A home visit was made. On examination she was found to be lethargic, with high grade fever of 39.0°C and a maculopapular rash was seen on her trunk but not on her extremities. Her pulse rate was 95/min, her blood pressure was normal and her lungs were clear. There was no jaundice or hepatosplenomegaly.

Murine typhus was suspected based on the history of exposure to *Rickettsia typhi* and the clinical presentation. Blood was taken for indirect immunoperoxidase test (IIP). She was given a course of doxycycline 200 mg on day 1 followed by 100 mg daily for the next three days. Since this patient preferred to be treated at home, she was followed up daily until she fully recovered. Her fever settled the next day and her signs and symptoms subsided gradually. A second blood sample for IIP test was taken one week after the first sample and a third sample was taken two weeks later.

The indirect immunoperoxidase test carried out on her serum showed a significant four-fold increase in IgG and IgM response against murine typhus. The results are shown in Table I.

Table I
Indirect immunoperoxidase result for endemic typhus

Serum samples	IgG	IgM
First sample (4 days of fever)	< 1 : 50	< 1 : 50
Second sample (1 week later)	1 : 1600	1 : 400
Third sample (2 weeks later)	1 : 3200	1 : 6400

There were no antibodies detected against scrub typhus and tick typhus.

Discussion

Laboratory infections have continued to occur in spite of increased awareness of the hazards and the increased emphasis on safety devices and measures.

The infections acquired by laboratory personnel are mainly transmitted via oral, respiratory, percutaneous

and by direct contact with the skin and/ or mucosa. In this case the laboratory personnel was infected by direct inoculation. She could have also accidentally ingested some rickettsia while she was rinsing her lips. Another possible mode of transmission is the creation of aerosol when she forcibly open the eppendorf tube. All these could have been prevented if she had opened the tube in the safety cabinet. Furthermore if the incident was reported as soon as possible, doxycycline prophylaxis against murine typhus could be given to prevent the progression of the infection.

Each laboratory dealing with infectious agents should have their own safety officer who could ensure that their laboratory personnel comply with the safety regulations and conduct awareness programs to maintain the level of safety consciousness in the laboratory. Continuing medical education regarding laboratory safety regulations and handling of infectious agents should be carried out at regular intervals However, it is the responsibility of the laboratory personnel to take care of their own health and safety by strictly adhering to the laboratory safety regulations set up by their employer[1].

This case report is intended to show that laboratory safety precautions must be strictly followed to avoid laboratory acquired infections.

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