

## Rash after Holiday in South Africa

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### Abstract

Despite of initial negative serology in a typical clinical post travelling disease, serology has to be repeated confirming the suspected diagnose. In the globalized world of today people travelling to far places even only for a short period, coming home first to their family doctors, presenting their concerns. Being aware of systemically diffuse problems in combination of a traveler's history should not be longer a matter of infectious disease specialists only. It is important becoming familiar with pathognomonic clinical impressions. The tick -bite -fever stands substitutionally for a systemically acting bacterial infection causing a typical skin sensation the so-called Eschar or Tache noir. Due to the fact of the mortality between 3-4 %, this case shows the pitfall of a false negative serological result if serology is taken to early and shall indicate the gap between clinical sign, serological proof and clinical relevance.

**Keywords:** Tic-bite fever; Eschar; Serology

### Case Report

A 63 year old Caucasian woman presented in a stable but weak condition to hospital complaining predominantly of frontal headache whilst showing signs of severe malaise, low-grade fever and tender bilateral inguinal lymphadenopathy. She had returned home eight days prior from a two week holiday in South Africa, where she and her family had travelled around Cape Peninsula and undertaken popular tourist activities, like ostrich riding, cave sightseeing and also visiting the semi-desert Great Karoo. During her last two days abroad she developed weakness and headache, furthermore noticing for the first time a dark skin lesion on her upper left thigh (Figure 1). From her history no severe sicknesses or disorders are known. She never has been admitted to hospital earlier despite of minor problems. There are no allergies or food intolerances are known. She presented with a body weight of 68 kg at a height of 172 cm.



**Figure 1:** A dark skin lesion on her upper left thigh.

Her physical examination of the chest including auscultation results from the heart and lungs revealed normal. Her neurological status

including testing reflexes could be shown unsuspecting. Her mental and cognitive situation could have been described slow but normal.

Her vaccination status was exceptional. She was booster against tetanus, diptherie and poliomyelitis.

Protection against hepatitis virus A and B as well, as documented vaccines against meningococci A, C, W, Y, typhoid fever and rabies virus including former yellow fever vaccination.

### Laboratory at admission

Leucocytes, hemoglobin, platelets, electrolytes including Na, K, Ca, and Creatinin as a kidney marker plus, transaminases like GOT, GPT were in the normal range.

The CRP as general marker of inflammation was slightly elevated around 35 g/dl (normal<5).

All other routinely taken parameters were unsuspecting, the lesion demonstrated a typical pathognomonic sign as a so-called eschar (Figure 2) also referred to as 'tache noir' [1,2].



**Figure 2:** Lesion demonstrated a typical pathognomonic sign as a so-called eschar.

## Diagnosis

Typical eschar ('tache noir') tick bite fever caused by *Rickettsia* species.

She was discharged home two days later with an improvement in her condition and a follow-up appointment organized for ten days later (Table 1).

## Management

Azithromycin 500 mg/day was commenced and bloods sent for serological investigation. The serology results for *Rickettsia* infection returned as negative.

Rickettsia Serology		
<b>Day 3 assessment</b>		
<i>R. conorii</i> Total Ig IIFT	negative	<1:40, negative
<i>R. africanae</i> Total Ig IIFT	negative	<1:40, negative
<i>R. typhi</i> Total Ig IFFT	negative	<1:80, negative
<i>R. prowazekii</i> Total Ig IFFT	negative	<1:160, negative
<i>Rickettsia</i> spp. PCR	negative	negative
<b>Day 11 assessment</b>		
<i>R. conorii</i> Total IgM IIFT	1:40	<1:20, negative
<i>R. conorii</i> Total Ig IIFT	0.263889	<1:40, negative
<i>R. typhi</i> Total Ig IFFT	negative	<1:80, negative
<i>R. prowazekii</i> Total Ig IFFT	negative	<1:160, negative

**Table 1:** Rickettsia serology follow-up appointment organized for ten days later.

## Conclusion

Despite an initial negative serological result following a typical African tick bite fever, it is important to repeat serological investigations due to the overall mortality risk of 3-4% [3].

## Conflict of Interest

On behalf of all authors, the corresponding author states that there is no conflict of interest. The work has not been published previously. The manuscript is not under consideration for publication elsewhere.

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