Ticks in the external auditory canal
在外耳道內的蜱蝨

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Ticks attack a wide range of vertebrates including humans, and are important vectors of numerous pathogens, e.g. virus, rickettsia, and protozoa. We present a case of ticks found in the external auditory canal. A 12-year-old girl presented to the emergency service with one-day history of right-sided earache. Otological examination found a tick blocking the external auditory canal. The tick was removed under local anaesthesia with a light microscope. After the tick was removed, another tick was detected in the external auditory canal. The second tick was not adhered to the ear canal skin and was mobile. It was also removed completely. The patient’s post-procedure course was uneventful. A broad spectrum antibiotic, an analgesic, and an antihistamine were prescribed. Both ticks were sent to the infectious disease laboratory for investigation of Crimean-Congo haemorrhagic fever. They turned out to be Hyalomma species. (Hong Kong J Emerg Med. 2010;17:190-192)

蜱蝨襲擊脊椎動物的範圍很廣，包括人類，而又是甚多病原體的重要媒介，例如病毒、立克次體及原生動物。本文描述外耳道內發現蜱蝨的個案。一名12歲女孩因右耳痛了一天而到急症室求診。耳科檢查發現有一蜱蝨正阻塞著外耳道。在局部麻醉及光學顯微鏡下，蜱蝨被除去。除去蜱蝨後，發現外耳道內有另一蜱蝨。這第二隻蜱蝨不是黏附在耳道的皮上，可以移動；亦全體被除去。病人術後的過程順利。處方了廣譜抗生素、止痛藥及抗組織胺。兩隻蜱蝨被送往傳染病化驗室檢查克里米亞－剛果出血熱。結果證明為璃眼蜱屬品種。

Keywords: Ear canal, Hyalomma, insects, ticks

關鍵詞：耳道、璃眼蜱屬、昆蟲、蜱

Introduction

Ticks attack a wide range of vertebrates including humans, and are important vectors of numerous pathogens, e.g. virus, rickettsia, and protozoa. In humans, ticks infest both hairy and non-hairy parts of the body and have also been found in the ear canal. Insect and arachnid foreign bodies of the external auditory canal can cause patients great distress as a result of otalgia, tinnitus and hearing loss. Rapid inactivation (killing) of the insect can facilitate relief of symptoms, as well as insect removal.
Case report

A 12-year-old girl presented to the emergency service in July 2008 with a one-day history of right-sided earache. In the otological examination, a tick blocking the external auditory canal was detected (Figure 1). The tympanic membrane could not be seen since the external auditory canal was swollen and partially blocked by the tick. During the history taking, it was learned that she was living with a dog in the house which might be the source of ticks. The patient was then referred to the otolaryngology clinic for removal of the tick. The procedure was performed under local anaesthesia with a light microscope. During the procedure, it was observed that the tick was alive, its abdomen was distended, and its mouthpart embedded into the tympanic membrane. Complete removal of the tick was performed with a fine cup-forceps. The tympanic membrane was not perforated. After the tick was removed, another tick was seen in the same external auditory canal. The second tick was not adhered to the ear canal skin and was mobile. This tick was also successfully removed completely (Figure 2). The patient’s post-procedure course was uneventful.

Afterwards, a broad spectrum antibiotic, an analgesic, and an antihistaminic were prescribed. Both ticks were sent to the infectious disease laboratory for investigation of Crimean-Congo haemorrhagic fever (CCHF). It was reported that the ticks were Hyalomma species.

Discussion

Ticks are capable of transmitting numerous pathogens to both humans and their pets. The risks of tick-borne disease vary geographically and are determined by the climate, environment, the presence of rodents and other mammal reservoirs, and the species of ticks parasitizing wild or domestic animals. Zoonoses such as Lyme borreliosis, tularemia, and tick-borne rickettsiosis can emerge in previously non-endemic areas when circumstances favourable to their maintenance and transmission arise. Tick-borne zoonosis can be prevented by the implementation and adoption of an integrated program to reduce the likelihood of tick bites on pets and their owners.

Ticks are the second most important vector after mosquitoes in causing viral, bacterial and protozoal diseases such as rickettsiosis, borreliosis, babesiosis, ehrlichiosis, tularemia, and Crimean-Congo haemorrhagic fever in humans all over the world. Some well-known tick-borne diseases such as rickettsiosis, tularemia, and newly described bacterial and viral diseases emerge in the last three decades.5,6 In Europe, tick-borne diseases have become important, particularly after their role in the transmission of the agent of Lyme borreliosis was demonstrated in the 1980s. One of the tick-borne pathogens, CCHF virus, has special importance. CCHF as an acute infectious illness can cause multi-organ failure and death. CCHF epidemics have been reported in Central Asia, Africa and Eastern Europe.7-11 Some serologic evidence
suggested that CCHF existed in the Anatolian region.\textsuperscript{12} Turkey introduced it in 2002,\textsuperscript{13} and CCHF has become an emerging disease in Turkey since 2002. There were 3135 confirmed cases with 155 deaths in 2002-2008 according to the Ministry of Health of Turkey report.\textsuperscript{14}

As for the route of infection, ticks are thought to fall off from their host animal and infect humans at campsites and in open fields. Common bite sites are the abdomen and eyelids, and bites on the external auditory canal are extremely rare.\textsuperscript{15}

Many different species of insects and arachnids may present as foreign bodies in the external auditory canal. Ticks, which are found relatively rarely in the external auditory canal, may transmit the widest variety of pathogens of any blood sucking arthropod, including bacteria, rickettsia, protozoa, and virus.\textsuperscript{15} Removal of ticks should be attempted only by competent persons to avoid complications because, for example, leaving the mouthparts behind may result in infection of the wound. Two issues are important in the removal of ticks. First, tick removal should be accomplished as soon as possible because the risk of transmission of infectious agents increases significantly with the duration of attachment. Second, tick removal must be complete and include the mouthpart. If the tick is removed improperly, it will probably increase the risk of transmission of disease(s). Inappropriate removal methods may put pressure on the tick’s abdomen, causing the introduction of pathogens from the capitulum into the host, thereby resulting in infection.\textsuperscript{16-18} The tick should not be handled with bare hands. During removal, sharp forceps should not be used, as the tick’s body should not be crushed, punctured or squeezed, and twisting or jerking motions should be avoided. Another important point is that substances such as petroleum jelly, gasoline, lidocaine, etc, should not be applied to the tick. The most commonly recommended and successful tick-removal method is manual extraction of the tick. However, a blunt, medium-tipped, angled forceps offers the best results.\textsuperscript{19}

References