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论著

输入性传染源对山东省消除丝虫病影响的调查

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摘要

目的了解输入性传染源对山东省不同流行地区消除丝虫病的影响。方法选择原高度流行区的峰城区和原低度流行区的德州市,分别对外来人口和当地居民血检微丝蚴;现场捕获吸血蚊虫解剖计算经产蚊比率和自然感染比率,并做血源鉴定;实验室微丝蚴血饲感染蚊媒观察幼丝虫发育时间和蚊媒生殖营养周期,推算媒介能量和传染源的传播量。结果外来人口微丝蚴率德州为3.32%,峰城为0.65%。当地居民德州血检9411人无微丝蚴血症者,峰城血检692人,发现2例残存微丝蚴血症者。在德州解剖淡色库蚊3201只,自然感染率为3.81%,未发现三期幼虫(L3)。德州和峰城淡色库蚊生殖营养周期分别为4.95d和4.33d,幼丝虫发育成熟最短时间分别为16d和11d,两地媒介能量和传染源传播量之比分别为1:4.41和1:5.82。结论德州以北地区由于气温较低,气候相对干燥,昼夜温差大,媒介能量和传染源传播量低,部分传染源的输入不会影响当地消除丝虫病。峰城等原高度流行区如有较多传染源输入,则可能造成低水平传播。

关键词 丝虫病 媒介能量 传播量 基本消除 山东

分类号

Investigation on the Impact of Imported Cases on Filariasis Elimination Program in Shandong Province

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Abstract

Objective To study the impact of imported filariasis cases on the elimination program in different areas of Shandong Province. Methods Dezhou was selected as former low endemic area and Yicheng as former high endemic area. Blood examination was carried out for both mobile population and local people for microfilariae(Mf). Mosquitoes were caught in field and dissected to count the ratio of those having laid eggs and the natural filarial infection rate. Mosquitoes reared at different temperatures were fed with Mf-positive blood and dissected after certain time period to observe the development of the larvae. The vectorial capacity and case transmission quantity were calculated and compared with those from different areas. Results The Mf positive rate of inflow population was 3.18% in average. No case was detected from 9 411 local residents after blood exam in Dezhou while 2 out of 692 local residents were found Mf positive in Yicheng. Mosquitoes'natural infection rate was 3.81% but no third stage larva was found. The shortest time period needed for the larva to develop into an infective stage was 16 days in Dezhou and 11 days in Yicheng. The time period from blood meal to egg-laying on average was 4. 95 days in Dezhou and 4.33 days in Yicheng. The ratio of vectorial capacity and case transmission quantity was 1:4.41 and 1:5. 82 respectively in Dezhou and Yicheng. Conclusion Filarial transmission seems unlikely in Dezhou for its low vectorial capacity and low transmission quantity resulted from low and evidently fluctuating temperature in the north. A low level filarial transmission may be possible in former high-endemic area such as Yicheng if there are as many imported cases as in Dezhou.

Key words filariasis vectorial capacity case transmission quantity elimination Shandong

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