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Defense Intelligence Agency

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DIA SEAL

## *Defense Analysis Report*

U-145,047-04/MA-2

25 June 2004

### **(U) Iraq: Leishmaniasis Cases Continue to Occur among US Forces in Iraq**

*(U) Leishmaniasis occurs throughout Iraq, with the 2004 peak transmission season just beginning and likely extending through September. In the absence of effective countermeasures, cases of cutaneous leishmaniasis will continue, and rare cases of visceral leishmaniasis could occur among US and Coalition forces. Because of a long incubation period, personnel likely will become symptomatic later this fall and winter.*

### **(U) Cutaneous leishmaniasis predominates, visceral leishmaniasis has been rare to date**

(U) As of 14 June 2004, an estimated 639 cases of cutaneous leishmaniasis (CL) among US personnel deployed in Southwest Asia had been reported; the vast majority of cases were *Leishmania major* acquired in Iraq. A few cases were acquired in Afghanistan (exact numbers are unavailable).

(U) To date, one clinical case of visceral leishmaniasis (VL) has been diagnosed among US forces in Iraq (two cases were diagnosed in US soldiers in Afghanistan). The case from Iraq was diagnosed in April 2004 in a soldier who spent a year-long tour in the Baghdad area. *Leishmaniasis donovani* was confirmed. The VL incubation period is usually longer than that of CL, and symptoms can be non-specific, both of which complicate diagnosis. Information is unavailable on whether any VL cases have been reported among Coalition forces.

### **(U) Peak transmission season for 2004 is yet to occur**

(U) Sand flies are the vector for the leishmaniasis parasite. Sand fly activity in Iraq typically occurs from April through November, with peak activity from July through September. Because of the potentially long incubation period for CL and VL (sometimes more than 6 months), persons now serving in Iraq and being exposed to infected sand flies likely will develop symptoms later this fall and winter. As forces move and/or redeploy from Iraq, medical providers must continue to consider CL for any suspect skin lesions and VL for non-specific symptoms such as unexplained fever or weight loss.

### **(U) Cutaneous and visceral leishmaniasis cases likely to continue**

(U) Current risk to US personnel in Iraq in the absence of countermeasures is as follows:

(U) **Cutaneous leishmaniasis:** A small number of cases (b)(3):10 USC 424;(b)(3):50 USC 3024(i) could occur among personnel exposed to sand flies in areas with infected rodents, dogs, or other reservoir animals during the transmission season. However, some units may be exposed to large numbers of infected sand flies in focal areas; attack rates among these units could be very high (b)(3):10 USC 424;(b)(3):50 USC 3024(i) CL is unlikely to be debilitating; however, definitive treatment typically requires non-urgent evacuation to CONUS, with extended inpatient treatment.

(b)(3):10 USC 424;(b)(3):50 USC 3024(i)

(U) **Visceral leishmaniasis:** Rare symptomatic cases could occur among personnel exposed to sand flies in areas with infected humans, dogs, or other reservoir animals. When symptomatic, VL causes a severe febrile illness that typically requires hospitalization with convalescence of more than 7 days. An undetermined number of cases of VL already may be incubating from exposures months ago during the previous transmission season.

(U) Although primarily transmitted by sand fly bites, the parasite also may be acquired through blood transfusion from an infected person, even if the person had no symptoms; US service members returning from Iraq are banned from blood donation for one year.

**(U) Current leishmaniasis treatment**

(U) Suspected leishmaniasis cases are being medically evacuated from theater and treated at four DoD medical treatment facilities: Walter Reed Army Medical Center (WRAMC), Brook Army Medical Center (BAMC), and medical treatment facilities at Forts Campbell and Hood.

(U) CL treatment involves the use of Pentostam, which can only be administered under an investigational new drug (IND) protocol. The Pentostam treatment protocol is lengthy, has substantial side effects, and is currently being done only at WRAMC and BAMC. A one-time heating of the skin lesion with thermal probes also is available. The new FDA-cleared (not approved) thermal method is being used for milder cases at Forts Campbell and Hood.

(U) VL cases can be treated with intravenous amphotericin B, which is approved by the Food and Drug Administration (FDA). However, amphotericin B has substantial side-effects. VL can also be treated with Pentostam under IND protocol.

**(U) Leishmaniasis prevention**

(U) Personal protective measures to reduce exposure to sand fly bites remain essential to preventing both CL and VL cases. These include the use of DEET (N, N-diethyl-meta-toluamide), permethrin-treated uniforms, bed nets, and education on the proper wearing of the uniform, along with strong command emphasis. Air conditioned tents with flaps that close tight also will aid in preventing exposure to sand flies.

(U) Where applicable, habitat abatement, removal of rubbish heaps, and insecticidal spraying may reduce the number of sand flies.

(b)(3):10 USC 424

(U) This produce supersedes (U) Iraq: Leishmaniasis among US and Coalition Forces during Operation Iraqi Freedom, U-145,005-04, dated 03 February 2004, which should be destroyed.

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## *Defense Analysis Report*

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25 June 2004

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## (U) Cutaneous and visceral leishmaniasis cases likely to continue

(U) Current risk to US personnel in Iraq in the absence of countermeasures is as follows:

(b)(1), Sec. 1.4(c) [redacted]

(b)(1), Sec. 1.4(c) [redacted]

(U) **Cutaneous leishmaniasis:** A small number of cases [redacted] could occur among personnel exposed to sand flies in areas with infected rodents, dogs, or other reservoir animals during the transmission season. However, some units may be exposed to large numbers of infected sand flies in focal areas; attack rates among these units could be very high [redacted]. CL is unlikely to be debilitating; however, definitive treatment typically requires non-urgent evacuation to CONUS, with extended inpatient treatment.

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(b)(6)

(b)(2)

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