Dermatologie et Voyages

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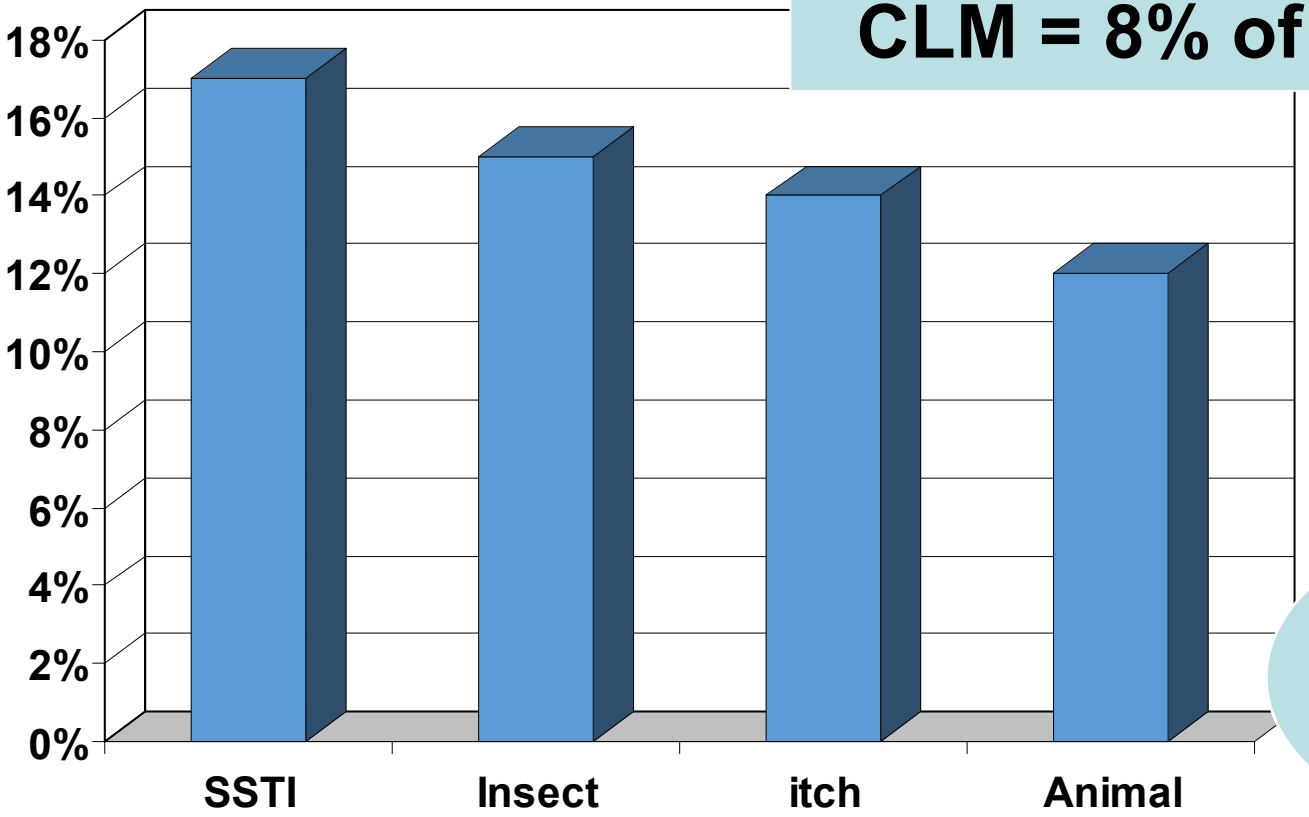
Potential links of Interests

- In the past 2 years, I (or my department) have received honoraria from **BMS, Baxter, Galen** and **Codexial** for lectures on STDs and participation in advisory boards (TBE vaccine, KS, permethrin).

- I am the Editor in Chief of the **Journal of Travel Medicine** (IF = 1.47) (submission wellcome)

Dermatoses in 8.227 ill travelers (19%), GeoSentinel, 2007-2011

Rabies PEP required in 12%
CLM = 8% of all skin pbs



Sentinel

Leder K et al. Ann Intern Med 2013; 158: 456-468

The top nine travel associated dermatoses* in 4594 pts, 1997-2006, WW travellers (GeoS)

Cutaneous larva migrans	: 465 (10%)
Insect bites	: 388 (8%)
Abcess (pyoderma)	: 366 (7%)
Surinfected insect bites	: 324 (7%)
Cutaneous allergy	: 263 (5%)
Rash of undetermined origin	: 262 (5%)
Bite by animals	: 203 (4%)
Superficial mycose	: 190 (4%)
Dengue	: 159 (3%)

SSTI : 690 (15%)

* 24% tropical;

Lederman E et al. Int J Inf Dis 2008, i:10.1016/i.iid.2007.12.008

The top nine travel associated dermatoses* in 114 pts, 2000s, tourists, migrants, expat

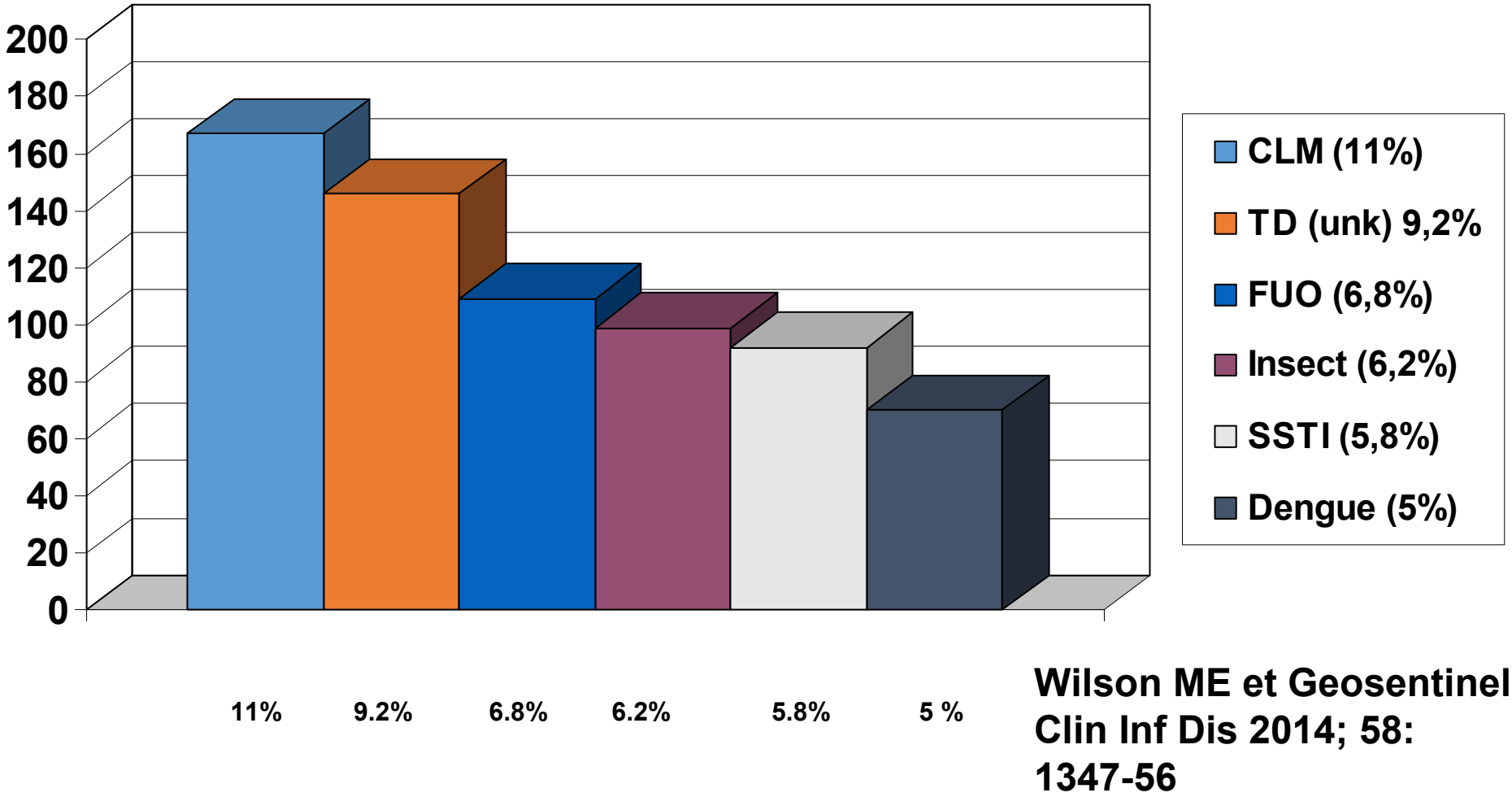
Infectious cellulitis	**: 21 (14%)**
Scabies	**: 17 (11%)**
PUO	**: 15 (10 %)**
Pyoderma	**: 14 (9%)**
Myiasis	**: 12 (8%)**
Tinea	**: 10 (6%)**
Filariasis	**: 9 (6%)**
Cutaneous Larva migrans	**: 8 (5%)**
Urticaria	**: 8 (5%)**

SSTI : 35 (23%)

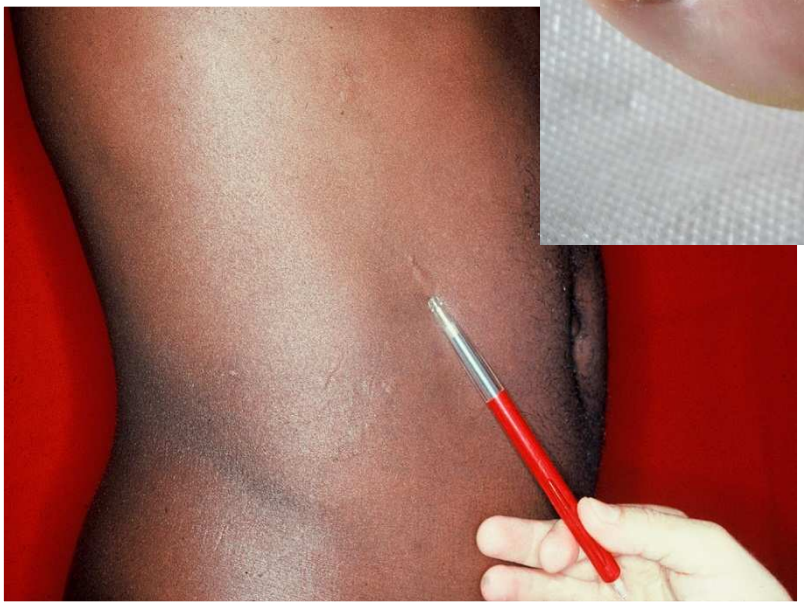
* 76 % of **149 dermatoses** (34% tropical)

Ansart S et al. Am J Trop Med Hyg 2007; 76 : 184-186

Top diagnoses in 1586 travellers /Brazil Geosentinel – 7/1997-05/2013



Wilson ME et Geosentinel. Clin Inf Dis 2014; 58: 1347-56




ANOFEL

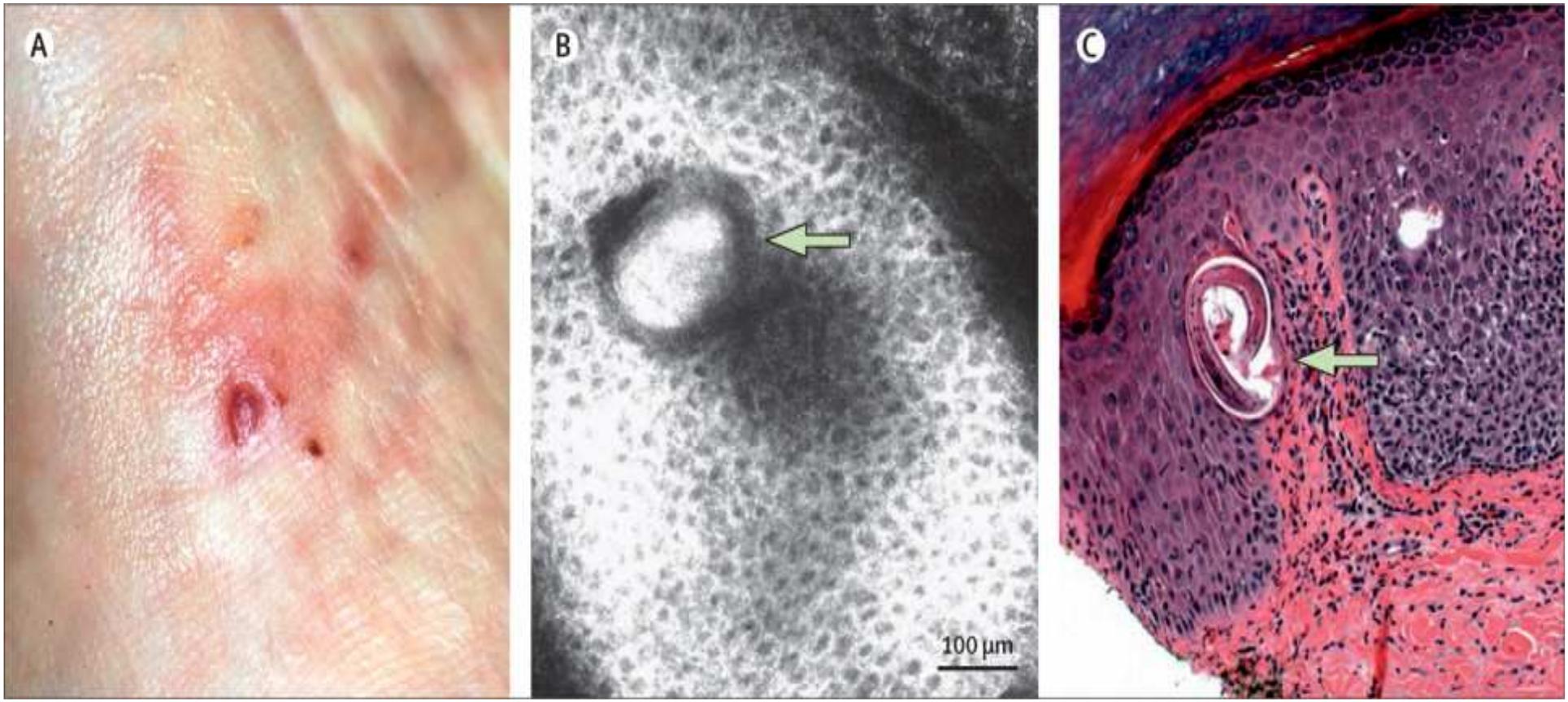
70 patients with creeping dermatitis, 2008-2012

Disease	Number of cases (%)
HrCLM including Hookworm folliculitis	**66 (94%) including 7/66 (11%)**
Gnathostomiasis	2 (3%)
Loiasis	1 (1.5%)
Creeping (dog) hair	1 (1.5%)
Migratory myiasis, dirofilariasis, larva currens	0

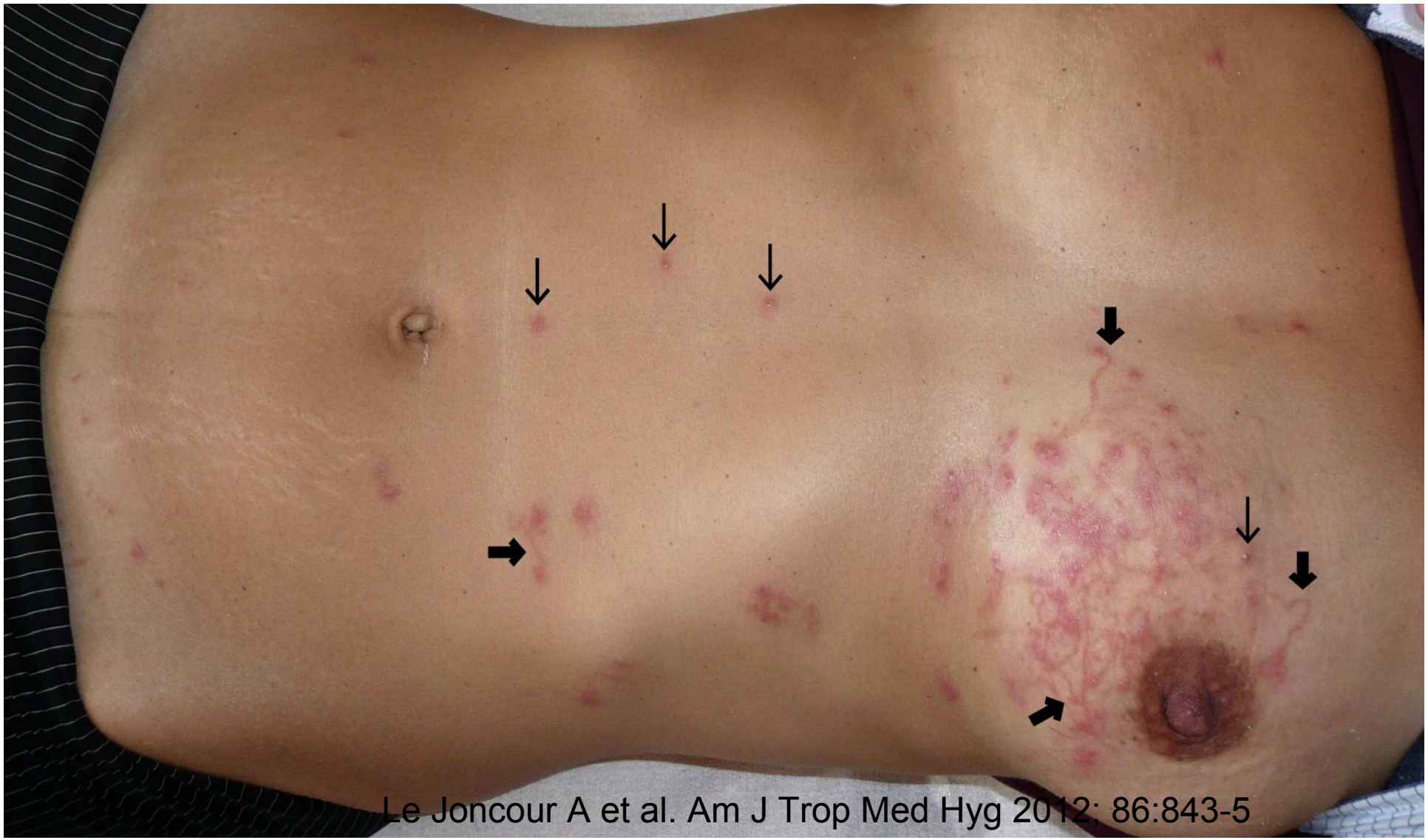
Van Haecke C et al. Br J Dermatol 2013

Confocal microscopic identification of hookworm larvae in HrCLM (Purdy KS et al. Lancet 2011; 377: 1948)

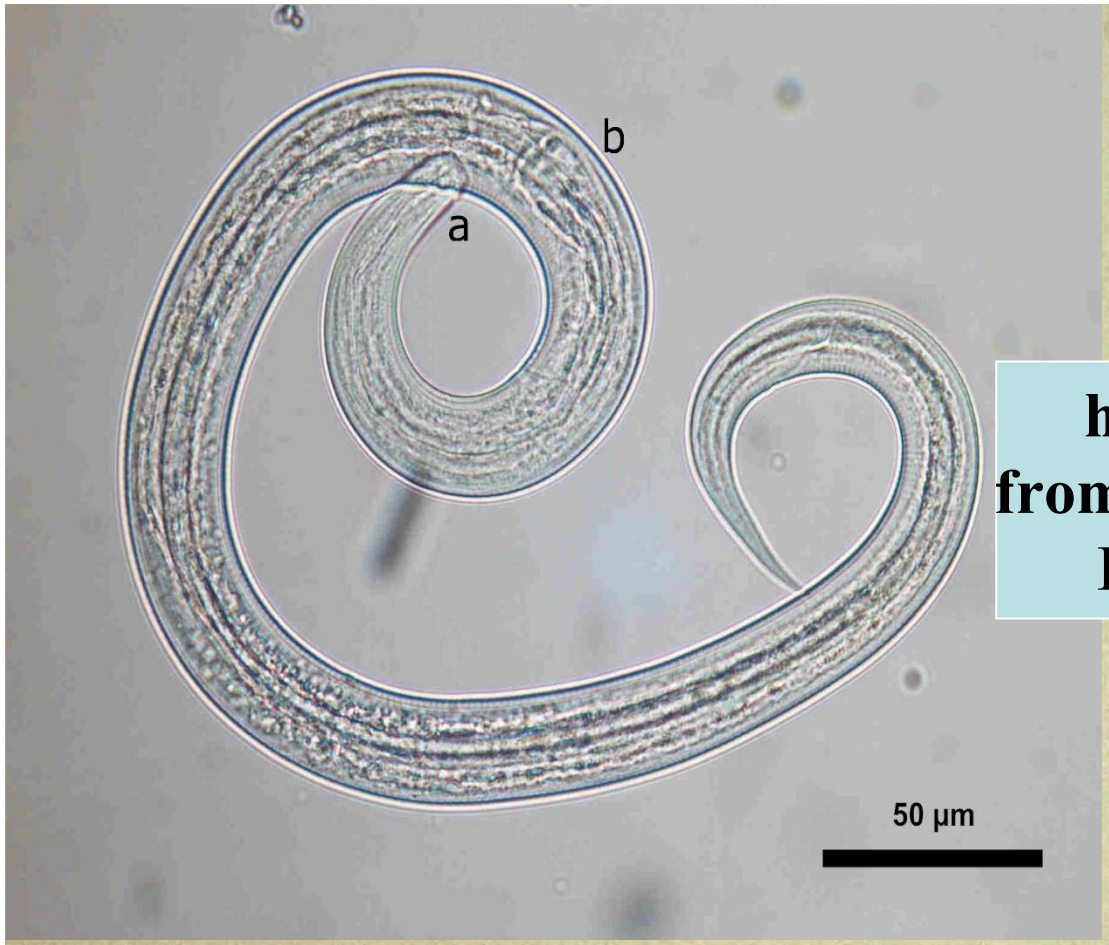
(A) Serpiginous eruption of plantar aspect of right foot. (B) Reflectance confocal microscope imaging showing highly refractile oval larva (arrow). (C) Histological examination of punch biopsy extraction showing richly eosinophilic intact hookworm larva (arrow) within the epidermis.



Identification of *Ancylostoma braziliense* in HrCLM



Le Joncour A et al. Am J Trop Med Hyg 2012; 86:843-5



hookworm larva recovered from a skin scraping of folliculitis Lesion (optical micro, x40)

Living hookworm larva recovered from a skin scraping of folliculitis Lesion (optical micro, x10)

Le Joncour A et al. Am J Trop Med Hyg 2012;

HrCLM : efficacy of ivermectin varies with the clinical presentation.

- 62 travellers (35 F, 27 M, 35 y) with HrCLM
- Tt : 200 μg/kg ivermectin, single dose.
- All pts had creeping dermatitis and 6 patients (10%) also had hookworm folliculitis (HF).
- Overall CR = 59/62 pts (95%). **CR = 98% in the 56 pts presenting with only creeping dermatitis and 66% in the 6 pts with HF** ($p < 0.01$)

Vanhaecke C et al. J Eur Acad Dermatol Venereol 2013

HrCLM in Lome, Togo: clinique et traitement par albendazole

- 163/22.628 pts (0.7%) presented with HrCLM
  - 15 +/-14 year old, H/F=1.8
  - Time after appearance = 4 +/- 3 weeks
  - Pruritus : 97%
  - Buttocks (38%), lower limbs (35%),..
  - Superinfection : 6 (3.8%)
- Tt: Albendazole 200 - 400 mg/d x 3 days. 77 pts evaluable for Cure (Wk 2). **CR = 69/77 (89%).**

Saka B et al. Ann Dermatol Venereol 2012; 139: 564-567

Albendazole in HrCLM

Ref	N=	Dosage	Cure rate
Coulaud, 1987	18	400 mg/d x 5 d	100%
Veraldi, 2011	78	400 mg/d x 7d	100%
Kaba, 2012	77	200-400 mg/d x 3d	89%

Ref	N=	Dosage	Cure rate
Jones, 1990	2	800 mg/d x 3 d	100%
Williams, 1989	4	800 mg/d x 3 d	100%


Tokyo, Japan
Tokyo

The « Leisman » recommandations: a species & severity based approach

1 – « Primum non nocere » approach (simple wound care) for minor (self healing) LCL (Lm, Lt, Li, Lae/Lmex)

2 – Local (IL AM/paromomycin ointment) for moderate LCL

3 – Systemic (AM at last) for extensive disease ± LCL (Lb, Lp)

Blum J. Travel Med 2013; 20:1195-1202

Imported LCL, France, 2006-2011
70 pts: species prediction by experts

70/135 (52%) species identified by PCR	OW	NW
Correct identification by clinical expert	96%	74%
Correlation K	0.93 (0.9-1.00)	0.59 (0.4-0.8)

Morizot G et al. Clin Inf Dis 2013; 57: 370–80

How determining the culprit species in LCL ?

- Clinical presentation may give an orientation but lacks of specificity – Tunisia (Aoun K, 2013); Guatemala (Herwaldt, 1992)
- Place of acquisition is reliable for OW species if: a) geographic distribution is well known, b) no species overlap, c) single place (Morizot G, 2013)
  - https://www.parasitologie.univ-montp1.fr/cnrl2.htm
  - https://www.whp.int/topics/leishmaniasis/fr

Buffet P. Ann Dermatol Venereol 2012; 139: 515-517.
Morizot G et al. Clin Infect Dis 2013

Imported LCL, France, 2006-2011 treatment outcome in 109 pts

Tt option	Wound care	CryoTt/IL	Syst Tt
N=	25	47	37
L.major	80%	60%	35%
L.guyan	8%	0	25%
Cured	**92%**	**79%**	**60%**
AE	0	0	32%

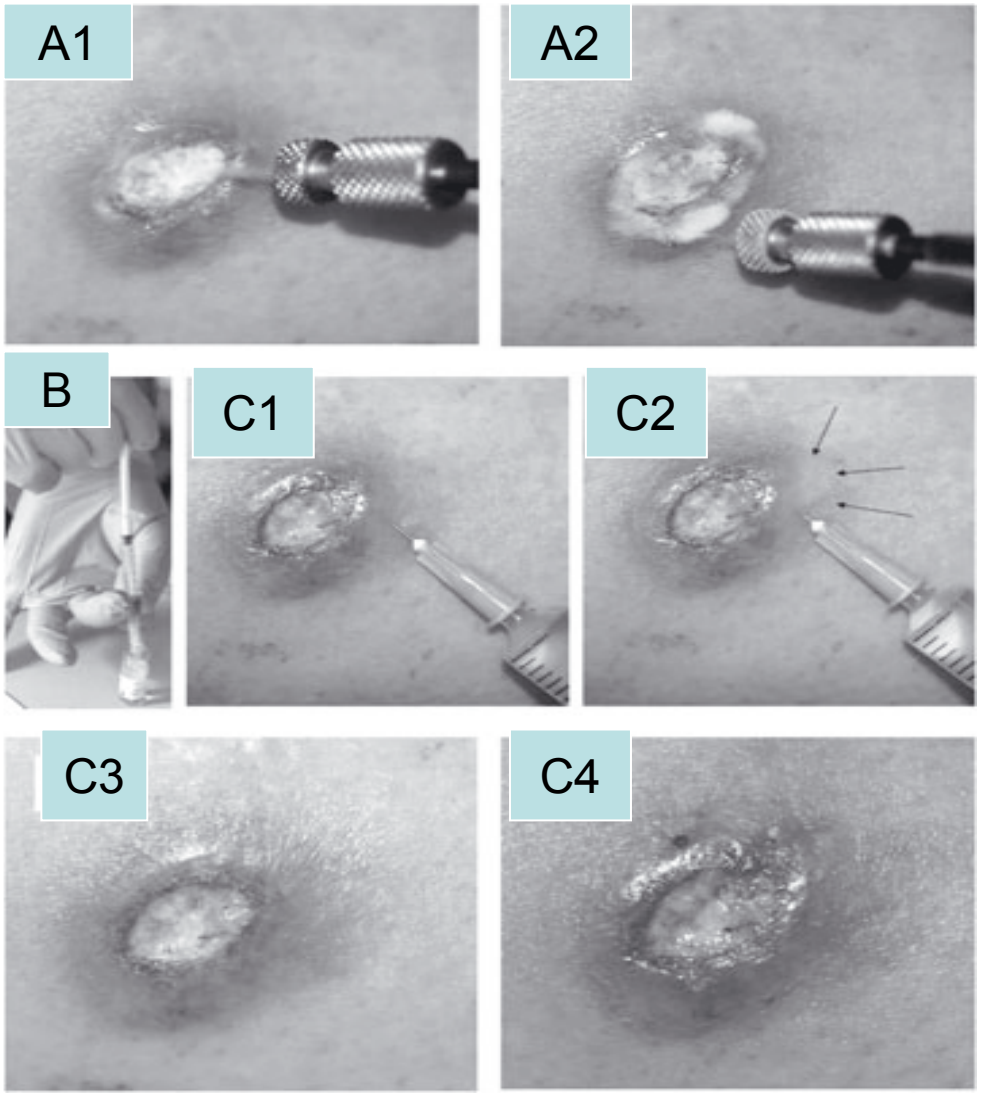
Morizot G. Clin Inf Dis 2013; 57: 370–80

Local treatment for LCL

- …..and so there is obvious selection bias….However…the results remain valuable as most centers will have treated these patients systemically with higher cost and risk of AE
- Existing local treatments (IL injections of AM, cryotherapy, topical paromomycine, and thermotherapy) are worthy of further evaluation

Bailey MS. Clin Inf Dis 2013; 57: 381-383

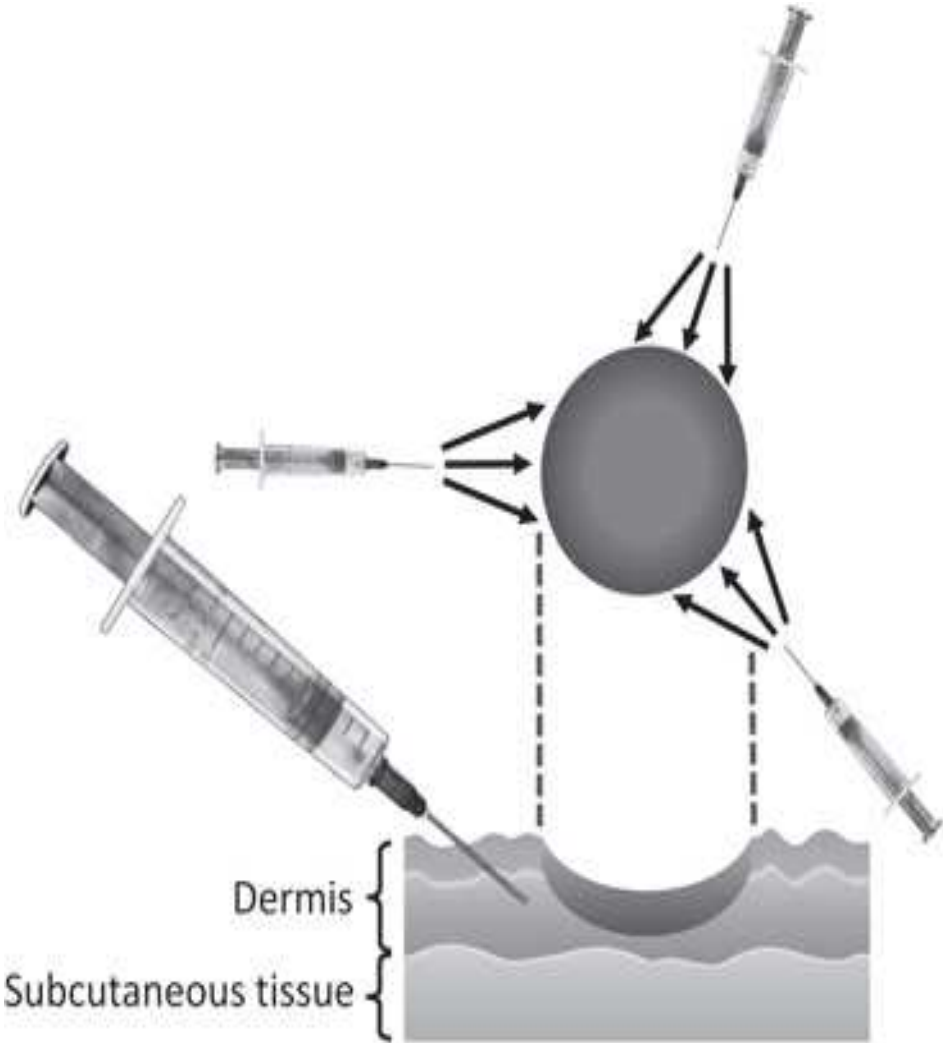
LeishMan Recommendations for Tt of LCL and ML in Travelers.



Blum J et al. JTM 201320:1195-1202

Procedures for superficial cryotherapy and/or intralesional injection of antimony. The lesion is first swabbed with antiseptics several mns before starting the procedure.
(A) Cryotherapy: cryotherapy with liquid nitrogen is then applied on the lesion (A1) and immediate borders (A2)—ideally with a sprayer—3- to 5-second blanching is obtained.
(B and C) Intralesional injection: Antimony as formulated for parenteral administration by the manufacturer (B) is injected into the lesion (C1) and should induce blanching of the borders (C2, arrows), until the lesion is entirely swollen (before procedure C3, end of procedure C4). The procedure is usually repeated 2 to 10 times at 2 to 8 day intervals.

Intralesional meglumine antimoniate, cryotherapy and combination



Procedure for intralesional treatment with pentavalent Antimony : advance the needle while injecting under pressure in the dermis, covering the whole lesion including the center.

Salmanpour R, et al. Int J Dermatol 2006; 45:1115-6.

Topical paromomycin +/- gentamycin vs placebo for LCL in Tunisia (*L.major*)

Tt for 20 days mITT pop	Paro 15%	Paro 15% Genta 0.5%	Vehicule
N =	125	125	125
Cure rate IL	**82%**	**81%**	**58%**
Superinfect°	2%	0%	**10%**
AE vesicules	**26%**	**25%**	7%

Differences between Tt groups : P < 0.001 vs vehicule

Ben Salah A et al. N Engl J Med 2013; 368: 524-532

Etiologies Exanthème fébrile chez 62 voyageurs au retour

Virus	**Chikungunya** (35%), **dengue** (26%), EBV (5%), HIV (3%), CMV (2%), Rougeole, Rubeole et varicelle (2%)
Bacteria	**Fièvre Africaine à tiques** (10%), Toxic Strep syndrome (2%)
Parasite	Toxoplasmose, bilharziose aigue (2%)
ADR	Nevirapine (traitement prophylactique post exposition en Afrique (2%)
Unknown	8%

Hochedez P et al. Am J Trop Med Hyg 2008; 78:710-713

Dengue vs Chikungunya

Variable	Chikungunya N = 22	Dengue N = 16	P =
Arthralgies	100%	0%	<0.001
Prurit	48%	31%	NS
Neutropenie	10%	81%	<0.001
Thrombopenie	35%	88%	0.002
Cytolyse hépatique	65%	88%	NS

Hochedez P et al. Am J Trop Med Hyg 2008; 78:710-713

Zika virus in Thailand and Polynesia

50 years old German, Nov 2013
12 days after returning from Thailand
Dengue like sd
Serologically confirmed

Tappe D. Eurosurveillance 2014;19:20685

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2 Japanese, 20 and 30 years
Dec.2013-janv.2014
6-10 days in French Polynesia
1 day after return in both
Dengue like sd with Rash
PCR confirmed

Kutsuma S. Eurosurveillance 2014;19:20685

Sexual transmission of Zika virus

Pts 1 and 2; Senegal, aug 2008 ;

become ill 6-9 days > return

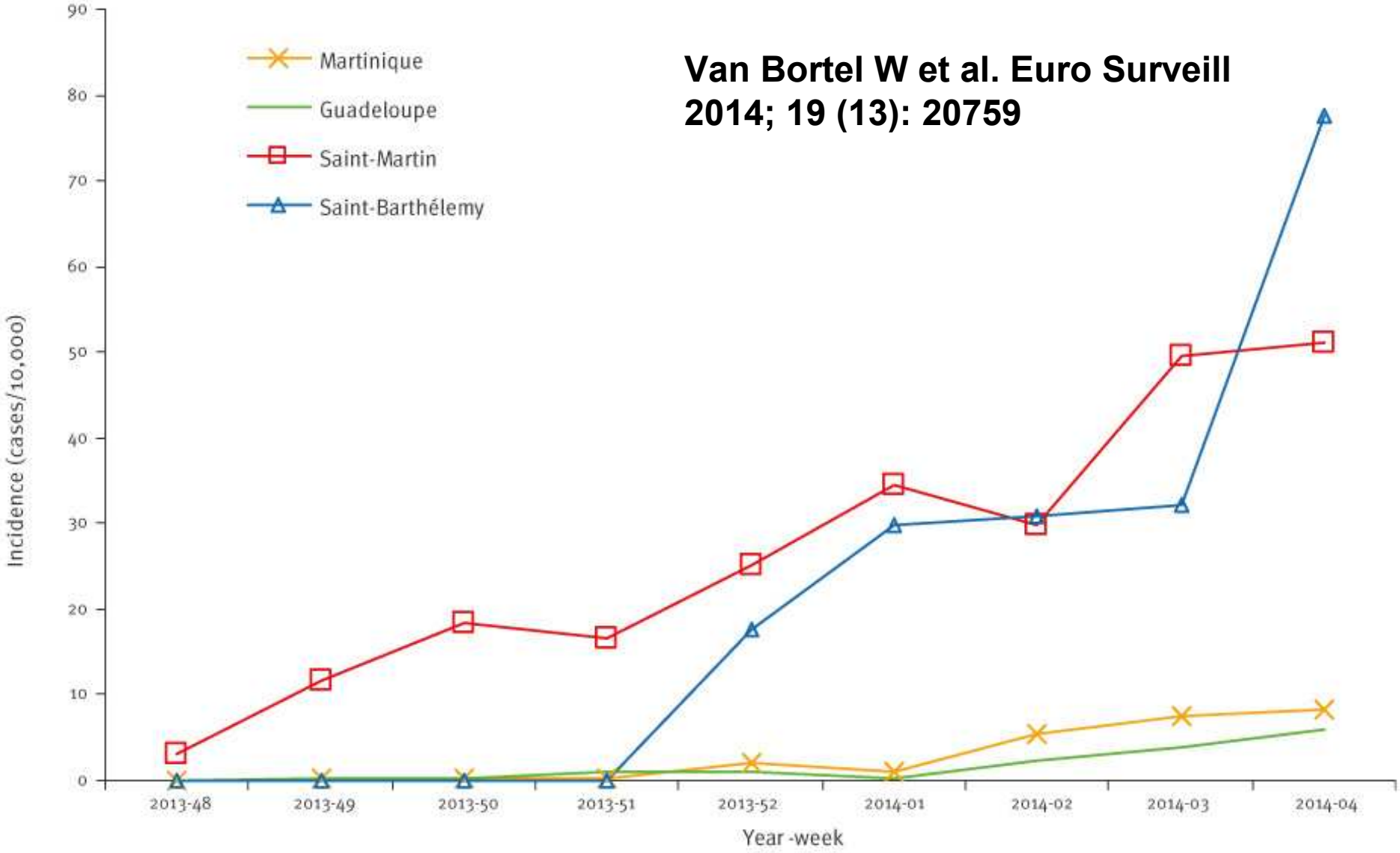
Pt 3 (wife of pt 1) became ill 9 days after pt 1 return from Senegal and 4 days after felt ill (with hematospermia and lips erosions)

➔sexual transmission (day 1 after return) is the only possible way of transmission

Foy BD et al . Emerging Inf Dis 2011;17:880-882

FIGURE 4

Weekly incidence of the estimated suspected cases of chikungunya by the sentinel network in Guadeloupe, Martinique, Saint Barthélemy and Saint Martin, 1 December 2013–26 January 2014



Van Bortel W et al. Euro Surveill 2014; 19 (13): 20759

The period 1 December 2013–26 January 2014 corresponds to the weeks 48 2013–4 2014.

Chikungunya in Carribeans

- 2013 (wk 48): Saint Martin
- 2013 (wk 52): Saint Barthelemy
- 2013 (wk 54): Martinique (French West indies) and British Virgin islands
- 2014 (wk 1): Guadeloupe

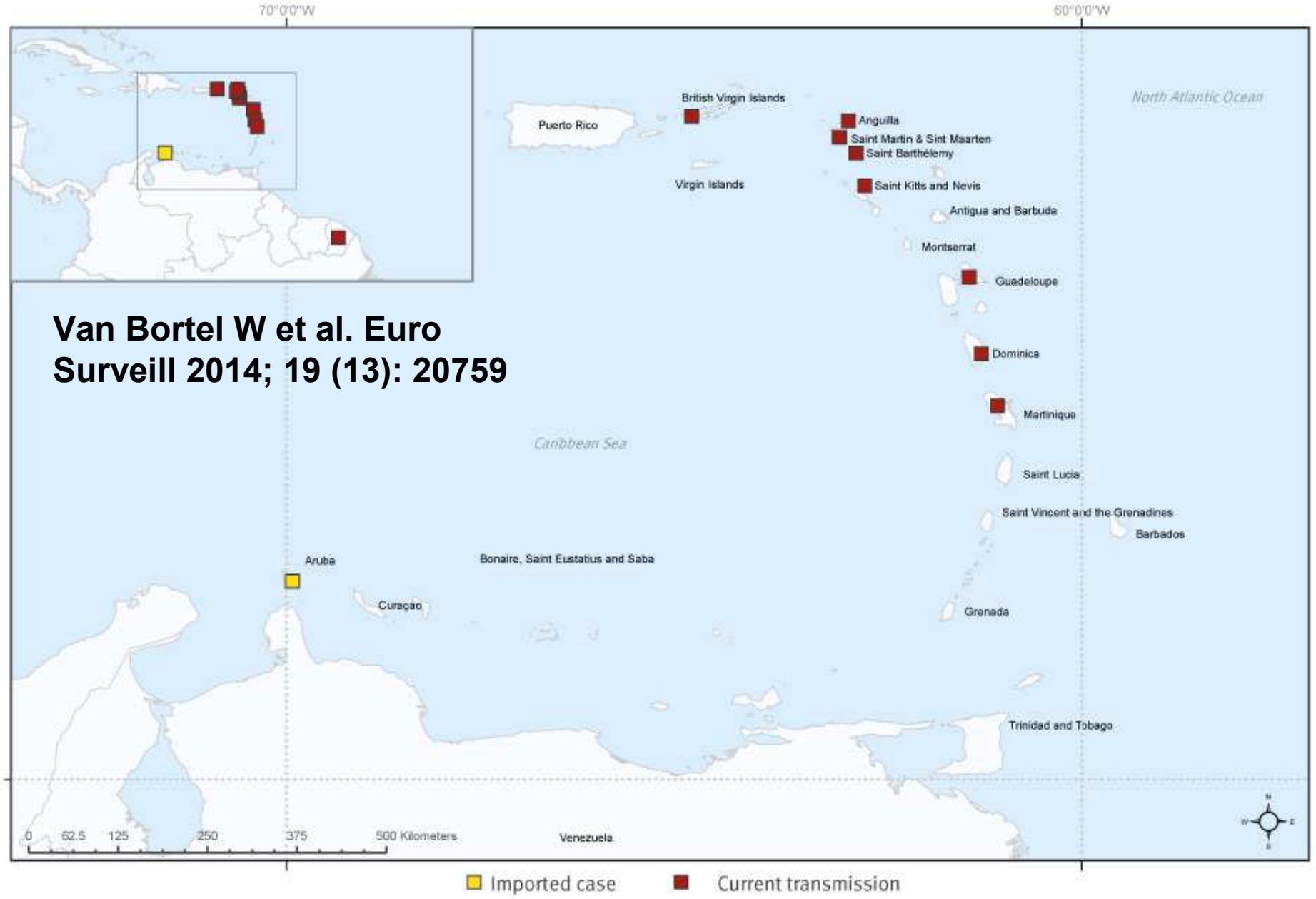
Van Bortel W et al. Euro Surveill 2014; 19 (13): 20759
Editorial. Lancet 2014; 383: 488
Leparc-Goffart I. Lancet 2014; 383: 514-515
Cassadou S. Euro Surveill 2014; 19 (13): 20752

Chikungunya outbreak - The Caribbean, 2013-2014

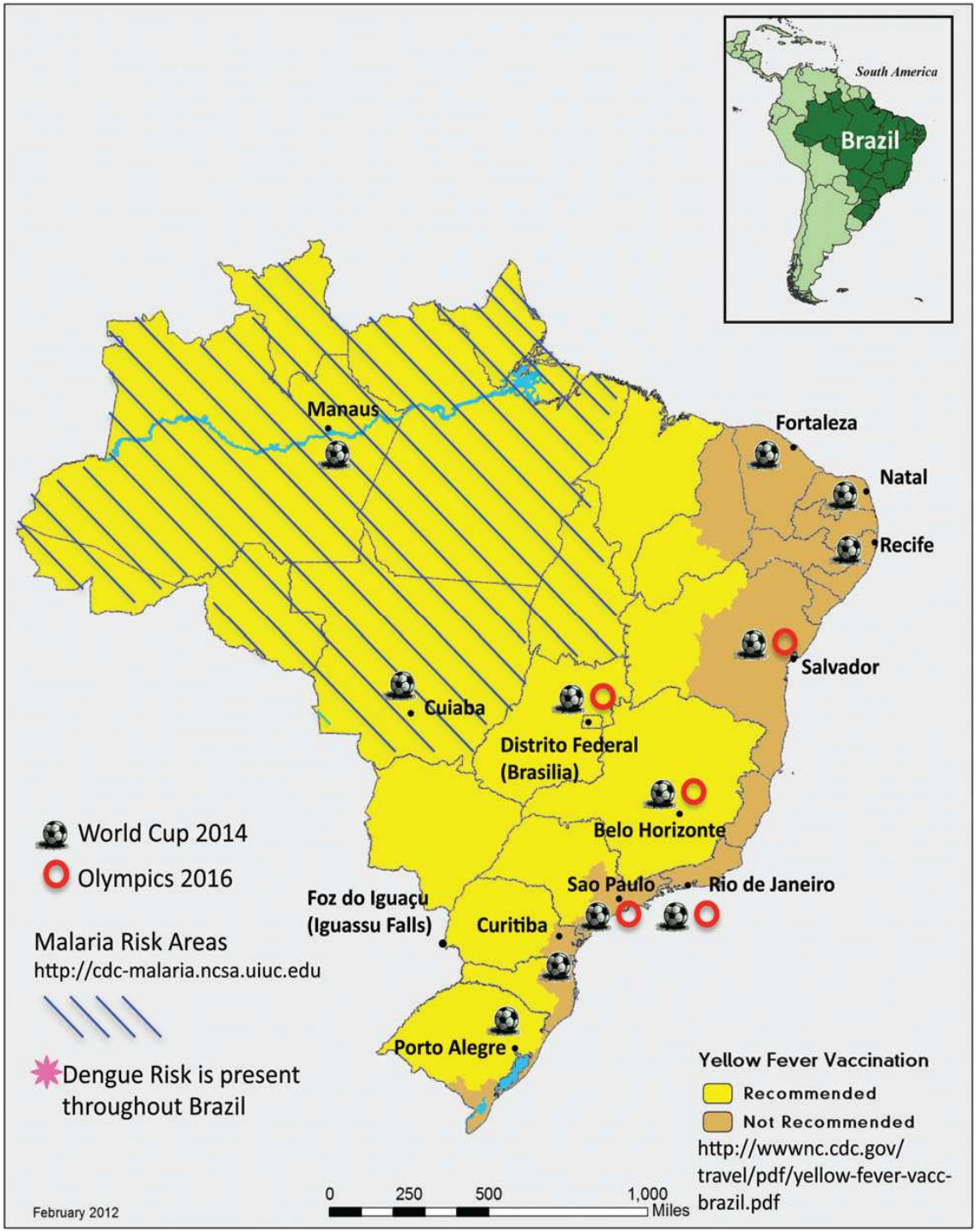
- **Anguilla**, 33 confirmed cases;
- **Antigua and Barbuda**, 4 cases;
- **Aruba**, 1 imported case originating from Saint Maarten;
- **Dominica**, 1 817 suspected cases and 122 confirmed cases;
- **Dominican Republic**, 8 017 suspected and 17 confirmed cases;
- **Guadeloupe**, **18 000** suspected and 1 328 cases, one death;
- **Haiti**, 632 confirmed cases;
- **Martinique**, **26 670** suspected and 1 515 cases, 9 deaths;
- **Saint Barthélemy**, 510 suspected and 135 cases;
- **Saint Lucia**, 5 confirmed cases;
- **Saint Martin** (FR), 3 280 suspected and 793 cases, 3 deaths;
- **Saint Vincent**, 110 suspected cases and 57 cases;
- ……..
- **French Guiana**, 176 cases 70% of which autochthonous;

FIGURE 3

Local chikungunya transmission and imported cases in the islands of the Caribbean region and in French Guiana, 1 December 2013–23 February 2014



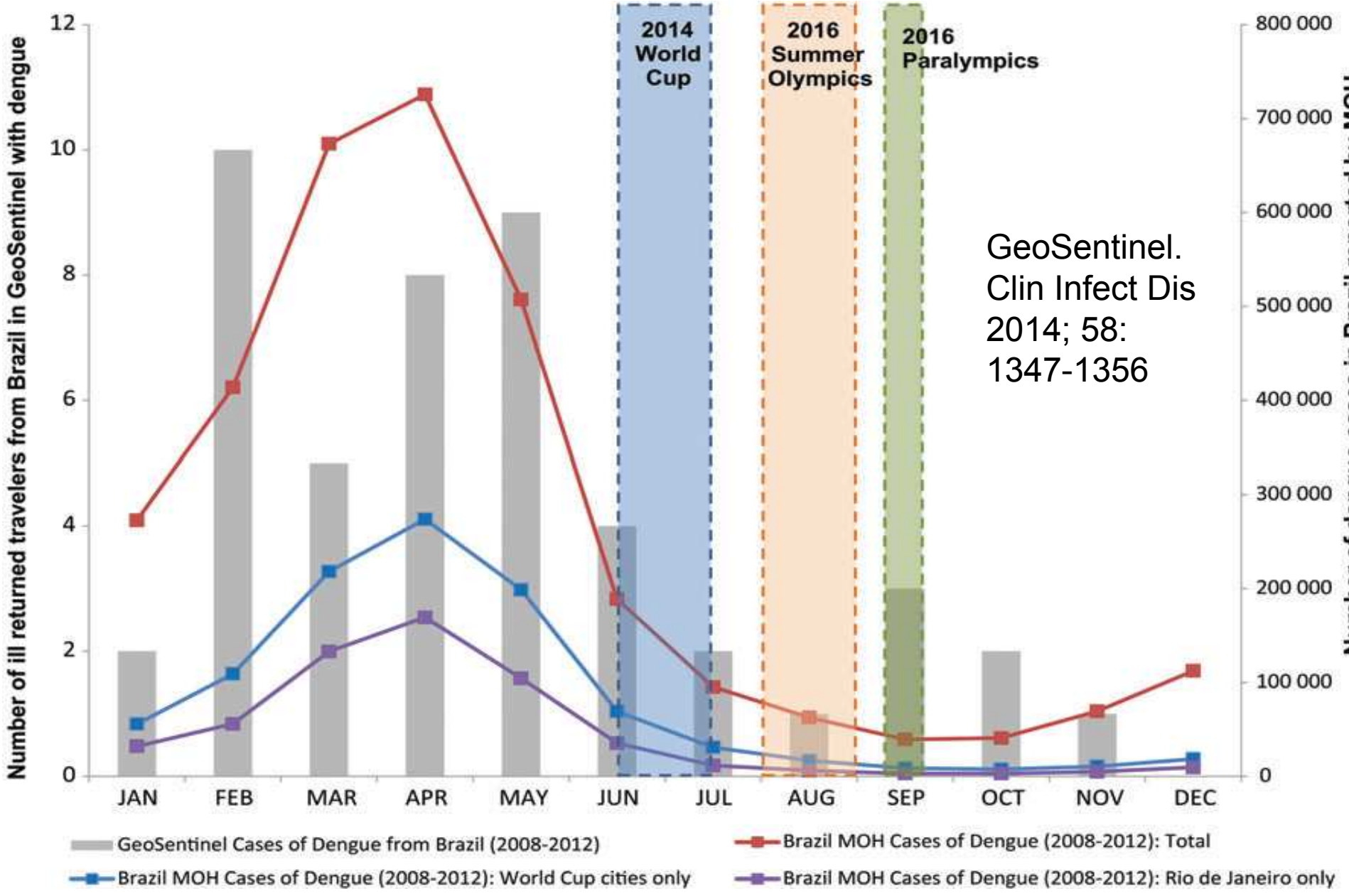
Van Bortel W et al. Euro Surveill 2014; 19 (13): 20759



Brazil
World cup and Olympics cities
Malaria and YF risk areas

Wilson M et GeoSentinel. Clin Infect Dis 2014; 58: 1347-1356

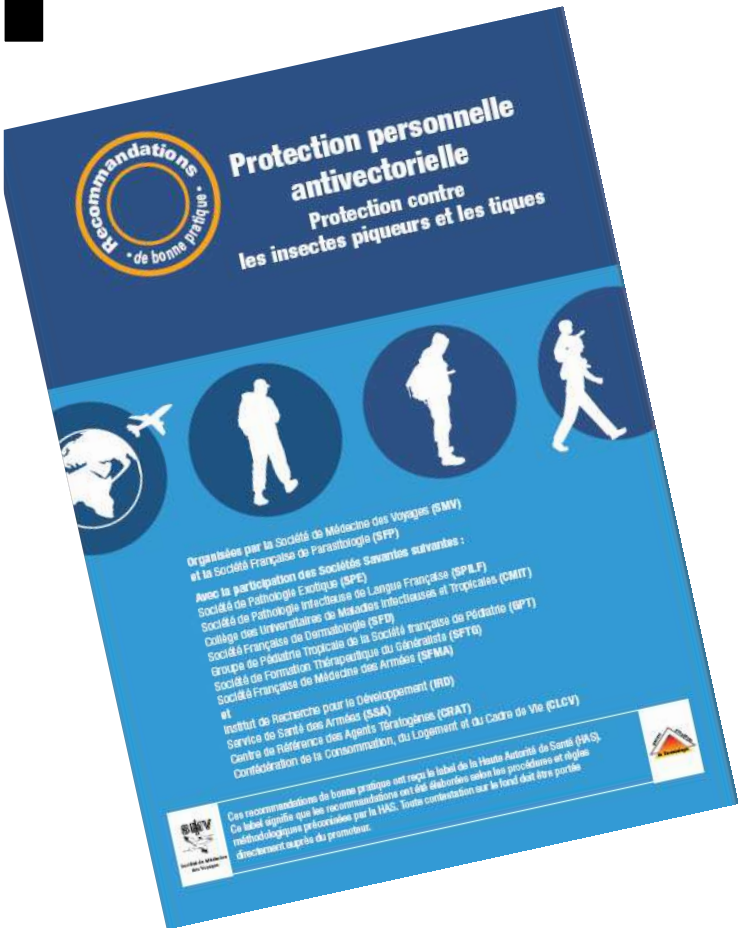
Dengue, Brazil World cup and Olympics



Recommandations de Bonne Pratique

Protection personnelle antivectorielle

à l'attention des voyageurs, des expatriés, des résidants et des nomades



PPAV group (including G. Duvallet, L. De Gentile, F.Legros). Personal Protection against biting insects and ticks. Parasite 2011; 18: 93-111

En résumé…

- **Pendant le voyage**: La PPAV doit aussi prendre en compte le risque d'arbovirose et les nuisances liées aux piqures d'insectes
- **Au retour**:
  - LMCa: efficacité de l'ivermectine; dg differentiel
  - LCL: indication Tt orientés par l'espèce et la sévérité, Tt local, absence de Tt,
  - Exantheme fébrile: dengue, chik (et Zika?)
- **Pb santé Publique** : importation arbovirale (*A.albopictus*)


Merci
pour
votre
attention