The traveller with HIV:

what to take, what will they bring back?

BHIVA Annual Meeting, 5th April 2017

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Travel stereotypes

Beach holiday

Business man

Volunteer worker

Independent traveller

Visiting friends and relatives

Travel stereotypes

Most people are fine

Most illnesses are self limiting

Common things are common

Most risks are not related to infections

> Understanding behaviour

Pre-travel

Patient

Plan a month ahead

Visit a travel clinic

Doctor

Be interested

Look it up

ART supply

Medical letter

> HIV is generally not an issue

Zika Virus

UK cases as of 29th March 2017

Total	295
Confirmed (75% PCR)	199
Pregnancy	7
Sexual transmission	1

Caribbean	215
C & S America	67

Risk Assessment

Advice
- don't go if pregnant
- avoid day biting mosquitoes
- wait 8 weeks before conception
- use barrier protection for 6 months

> Changing situation (see PHE website)

Vaccines and HIV infection

Lower threshold for use

Sub-optimal response and durability

Live vaccine issue

Not if CD4 < 200

Yellow Fever

MMR

Varicella

Not at all

BTyphoid (Ty21a)

Cholera

(BCG)

Oral Polio

Influenza (intranasal)

Smallpox

Geretti AM et al HIV Med (2008)

The Green Book

Post travel: what do they bring back?

Epidemiology: 5y GeoSentinel Survey

42,173 ill returning travellers presenting to 53 global specialist centres

Continents	Asia	33%
	Africa	27%
	Latin America	19%
Syndromes	GI	34%
	Fever	23%
	Skin	19%
Travel advice	All	40%
	VFR	18%

Leder K, Ann Int Med (2013)

Should we screen asymptomatic returning travellers?

1993	Peto & Conlon (Oxford)	Limited benefit
2000	Whitty & Chiodini (London)	Targeted benefit

HTD: 1539 patients > 3 months in tropics (60% Africa)

Exposure Hx, Symptoms and exam	Unhelpful
Stool, Schistosomal serology, terminal urine	Useful
Eosinophilia (> 0.5)	Guide

> **Africa, nurse-led, lab-directed, good yield, simple Rx**

Peto TEA, BMJ (1993), Whitty CJ. Trop Med Int Health (2000)

DIARRHOEA

Diarrhoea at HTD

509 consecutive patients attending HTD walk-in service

Pathogen identified in 25%

Symptoms < 14 days = bacterial (p<0.001)

Travel to Asia > parasites (OR 1.96)

Bacterial (vs non-)	Odds Ratio
History of fever	3.3
Raised CRP	6.2
Faecal leukocytes	4.4

Bacterial	**(55)**	**Parasitic**	**(51)**
Shigella	(18)	Giardia	(35)
Campylobacter	(17)	Cyclospora	(8)
Salmonella	(13)	E histolytica	(4)

McGregor AC, Trans Royal Soc Trop Med Hyg (2012)

37♂ Fever and Bloody Diarrhoea

Letter from Addis Ababa, Ethiopia

Dx	Chronic diarrhoea	
	2° Crohn's Disease	
	& Pseudomembranous colitis	
PH	10 months of diarrhoea	
	Bloody dirrhoea for 1 week	
Rx	Giardiasis:	Tinidazole x 2
	Amoebiasis:	Metronidazole
	Dysentery:	Ciprofloxacin
	Typhoid:	Ceftriaxone

Examination

Unwell

Cool peripheries

T	**38°**
P	**110 reg**
R	**24 (sats 93%)**
BP	**115/70**
CVS	**S_3 oedema +**
RS	**dull bases**
GI	**liver edge**

37♂ Fever and Bloody Diarrhoea

Investigations

CRP	**197**	
WCC	**9.6**	**(EΦ 1.5)**
Albumin	**27**	

HIV POCT negative

37♂ Fever and Bloody Diarrhoea

Some causes of dysentery

Amoebic	*Entamoeba histolytica*
Baciliary	*Shigella flexneri*
Bacterial	*Camplyobacter jejuni*
	ETEC
	Salmonella typhi
Parasitic	*Schistosoma mansoni*
Inflammatory	UC / Crohns

More history

2 ½ years

Village in western Ethiopia

Training teachers

First floor flat

Fastidious with food

Frequent swimming in lake

Never had sex

No previous GI problems

37♂ Fever and Bloody Diarrhoea

HOT stool examination

1) Visualisation	**Liquid** **Blood & mucus**
2) Microscopy	**WBC +++ / RBC +++** **No trophozoites**
3) Ova	***S mansoni* +++** **(live & calcified)**
4) Cysts	**None**
5) Parasites	**None**

37♂ Fever and Bloody Diarrhoea

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Management

Schistosoma ELISA positive

Praziquantel

“chronic inflammation, ulceration, crypt abscesses graunuloma”

Clinical recovery over 2 weeks

Diarrhoea 2: 26y woman

HPC 4w watery diarrhoea 2-3x/d
nausea, occasional cramps
no fevers or blood

Otherwise well
No response to ciprofloxacin

Travel 6w Nepal and India (Delhi and Goa)
returned last month

Exam Normal

Diarrhoea 2: 26y woman

Ix	FBC & U&E normal, CRP 15
Stool	Liquid
	No white or red cells
	No ova cysts or parasites
	Culture negative
DDx?	**Giardiasis**
	Post-infectious irritable bowel
	Small bowel overgrowth
	Coeliac disease

Diarrhoea 2: 26y woman with ? Giardiasis

Options

- Empirical tinidazole
- Repeat stool microscopy
- String test
- Duodenal biopsy
- Faecal PCR (GI-multiplex)

Diarrhoea 2: 26y woman with ? Giardiasis

Empiric Tinidazole -> partial recovery

- Poor adherence?
- Insufficient Rx?
- Re-infection from partner?
- Poor host defence?
- Drug resistance?

Study 4y retrospective case series

All microscopy or PCR positive cases at HTD

Refractory = proven first Rx failure

Rob Lever's HTD data (2016)

Diarrhoea: late presentations

Strongyloidiasis (small bowel)

Issues	Skin: Larva currens
	Lung: Loeffler's syn
	GI: mimic / malabsorption
	Auto-infection
	Hyper-infection
Ix	Eosinophilia
	Serology
	Charcoal stool
	Jejunal biopsy

Amoebiasis (large bowel)

Issues	Long incubation
	Intermittent diarrhoea
	Dysentery: mimics IBD
	Fatal
Ix	Stool OCP (hot – trophozoites)
	Colonic biopsy
	Serology (30 – 50%)
	E histolytica v E dispar

Diarrhoea: in summary

Most self limiting

Bacterial < 2 weeks, Giardia longer

Dysentery has a differential

Stool microscopy, culture and PCR

First presentation of IBD or Coeliac Disease

Azithromycin or Ciprofloxacin

HIV may attenuate presentation

SKIN

Skin problems

- Rash
- Eschar
- Ulcer
- Itchy lesion
- Infestation

Skin problems: rash

26y	3/7 Fever, headache, myalgia
Travel	2w cycling holiday in Vietnam Back 5d ago
Exam	T 39.2, P 104, BP 96/58 Petechial rash Pitting oedema
Ix	Hb 10 WCC 2.3 Plts 94 ALT 143 CRP 37

Dx	**Dengue**
DDx	Chikungunya Zika virus
Send	PCR of blood to Porton Down
Rx	Supportive Warning signs / severe disease

Skin Problems: eschar

A: Fever from South Africa

10d walking safari

Returned last weekend

3d high temperature & headache

No focal symptoms

CRP 57, WCC 4

Blood film: no malaria parasites

Skin Problems: eschar

A: Fever from South Africa

10d walking safari

Returned last weekend

3d high temperature & headache

No focal symptoms

CRP 57, WCC 4

Blood film: no malaria parasites

B: Fever from Tanzania

10d walking safari

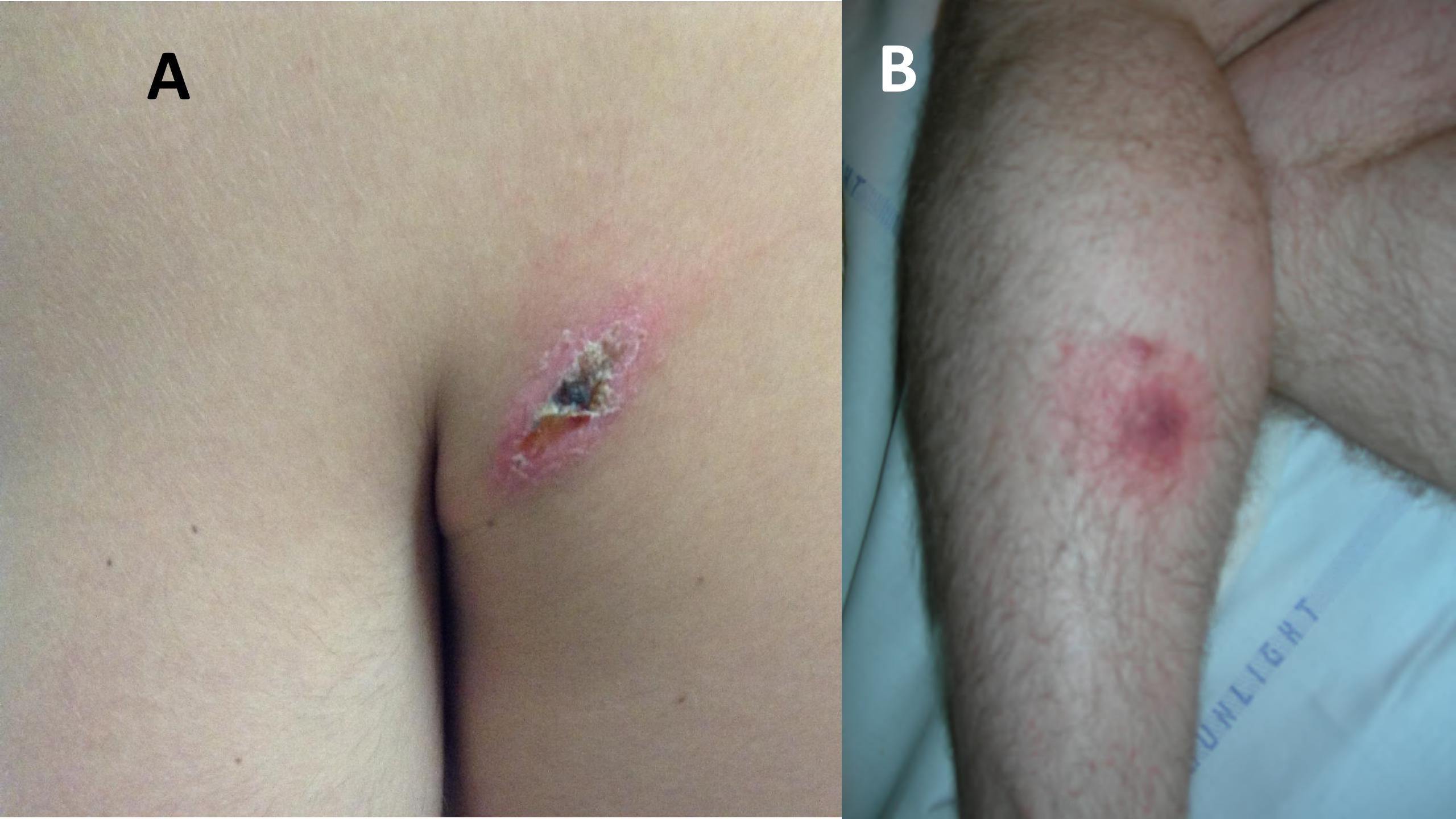
Returned last weekend

3d high temperature & headache

No focal symptoms

CRP 57, WCC 4

Blood film: no malaria parasites


A
B

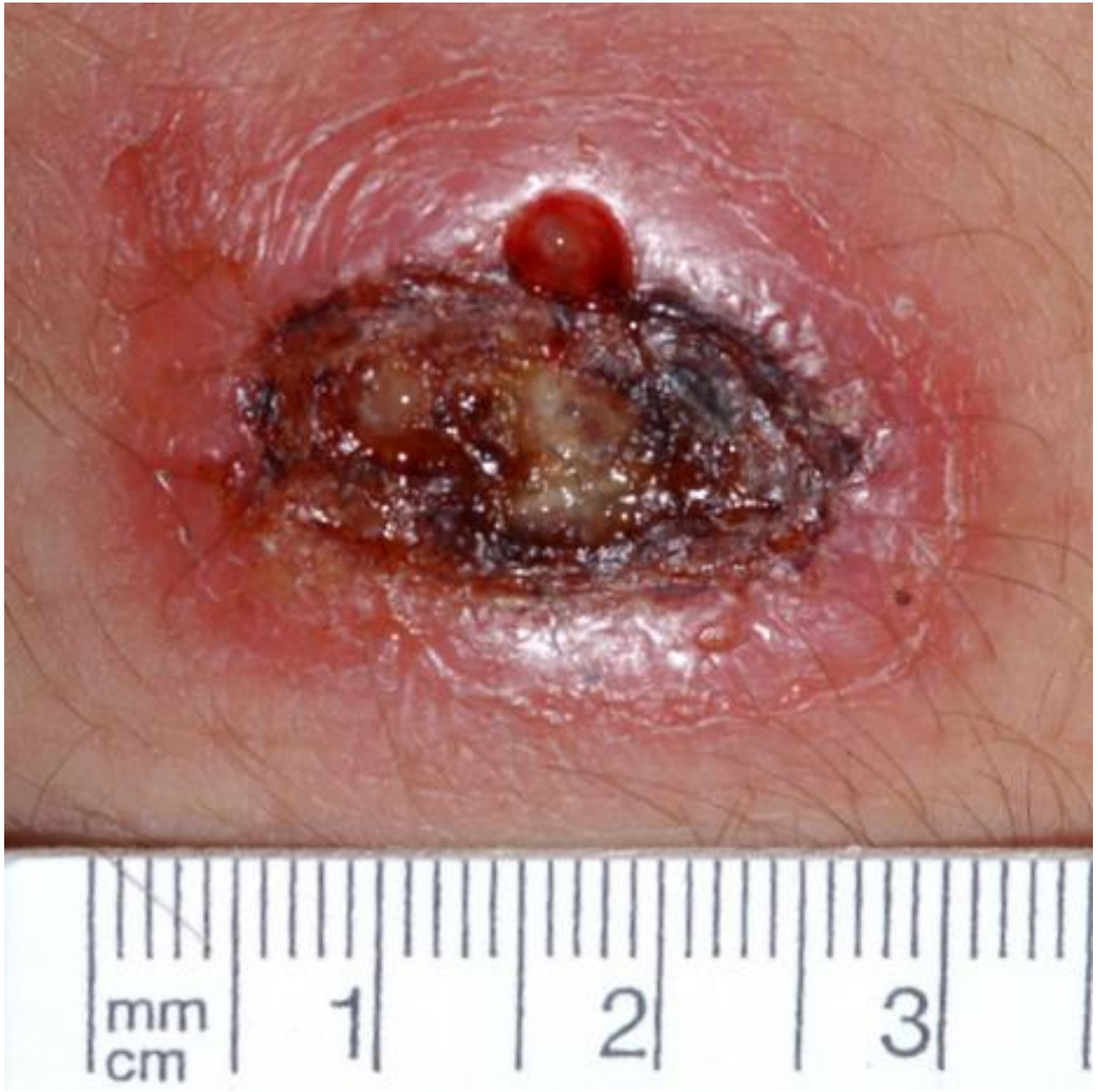
Skin problems: eschar

A

Dx	**African tick typhus**
Ix	None
Rx	Discharge on doxycyline
Px	Better in 3d

B

Dx	**East African Trypanasomiasis**
Ix	Lumbar puncture
Rx	Admit for suramin / melarsaprol
Px	5-10% mortality



Preferred Site for Punch Biopsy of Suspected Lesions

Skin problems: ulcer

51y UK man

PC	June lesion left arm
Travel	Peru in April Forest walks
PMH	Asthma & eczema
SH	Actor Single Occasional marijuana

Exam	**Multiple cutaneous lesions**
	large ulcer left forearm sporotrichoid spread axilliary LNs small lesion on neck
Ix	Slit skin smears (microscopy) Needle aspiration (culture, PCR) Skin biopsy (histology)

Skin problems: ulcer

Dx **Cutaneous Leishmaniasis**

DDx Infected insect bites
Foreign body reaction
Fungal infections
Staphylococcal infection
Non-tuberculous mycobacteria
(Buruli ulcer)
(Yaws)

Rx **IV Sodium Silbogluconate**

Intra-lesional injections

3 week course

Slow healing 3 months

Skin problems: itchy lesions

28y man

PC	9d itchy rash on foot
Travel	Beach holiday in SE Asia
	Returned last week
Exam	Systemically well

Dx	**Cutaneous Larva Migrans**
Rx	1) do nothing
	2) topical thiabendazole
	3) oral albendazole or ivermectin
	(steroids if widespread inflammation)

Skin problems: jigger fleas (tungiasis)

Complications

bacterial super-infection

ulceration

nail destruction

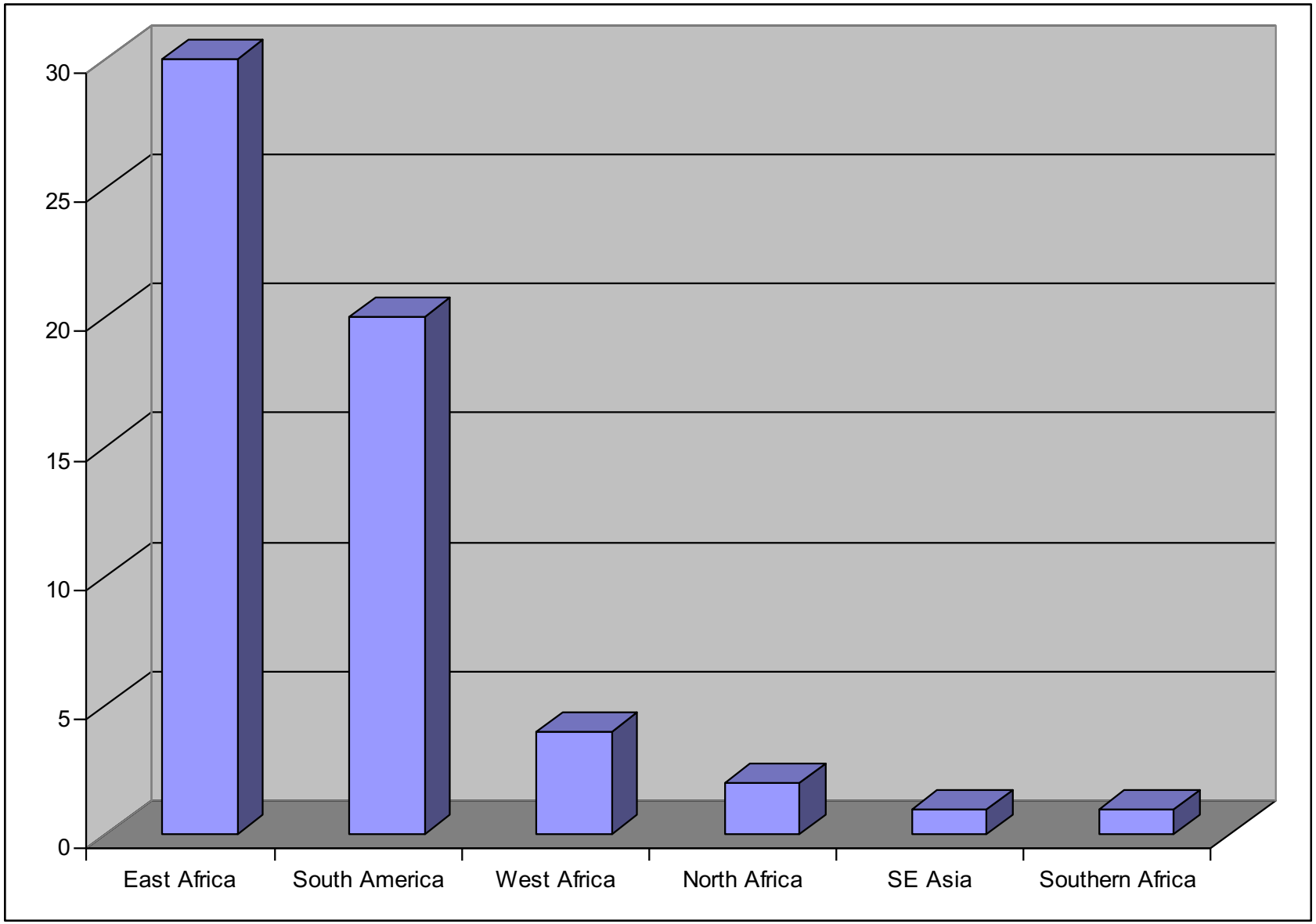
lymphoedema

tetanus

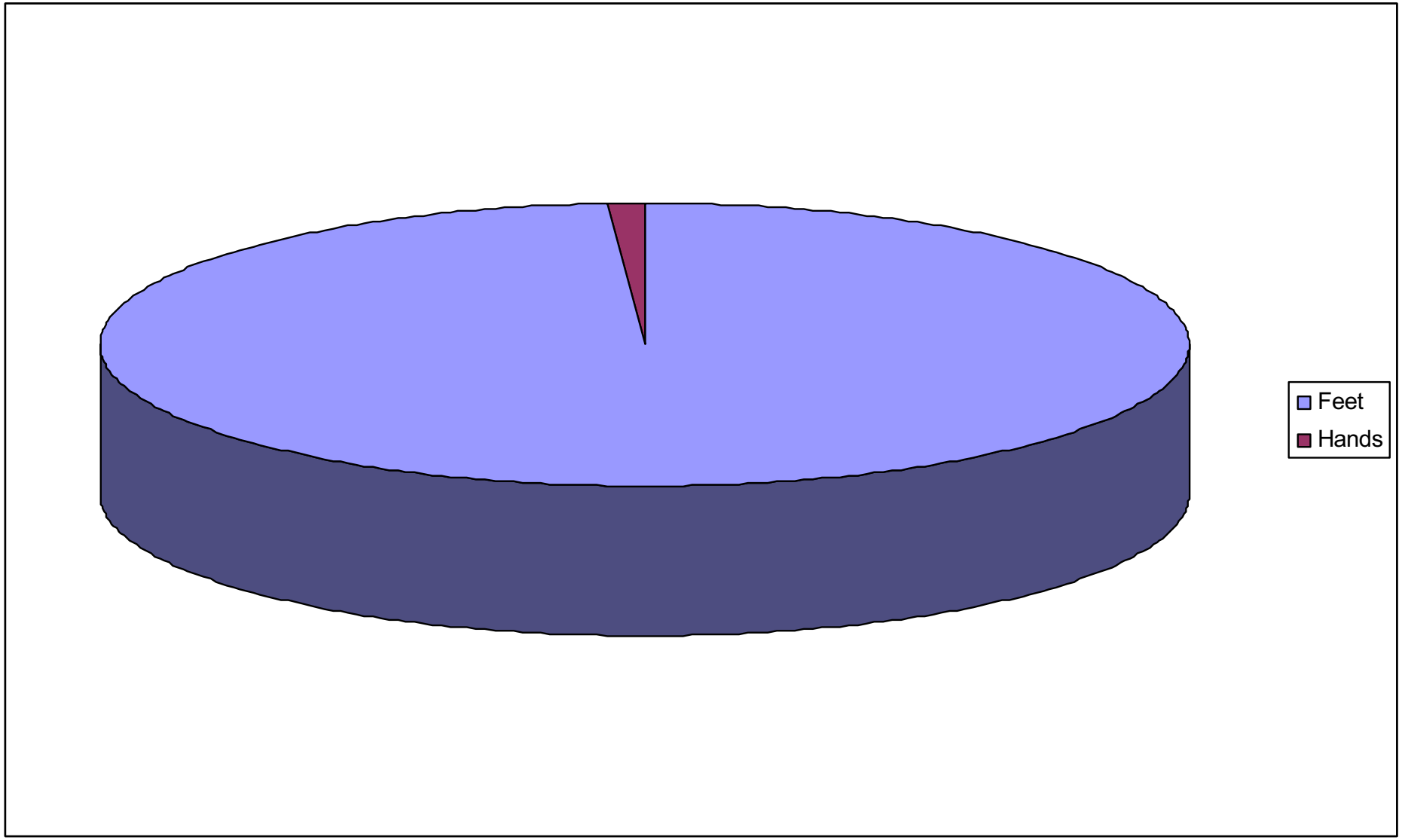
Treatment

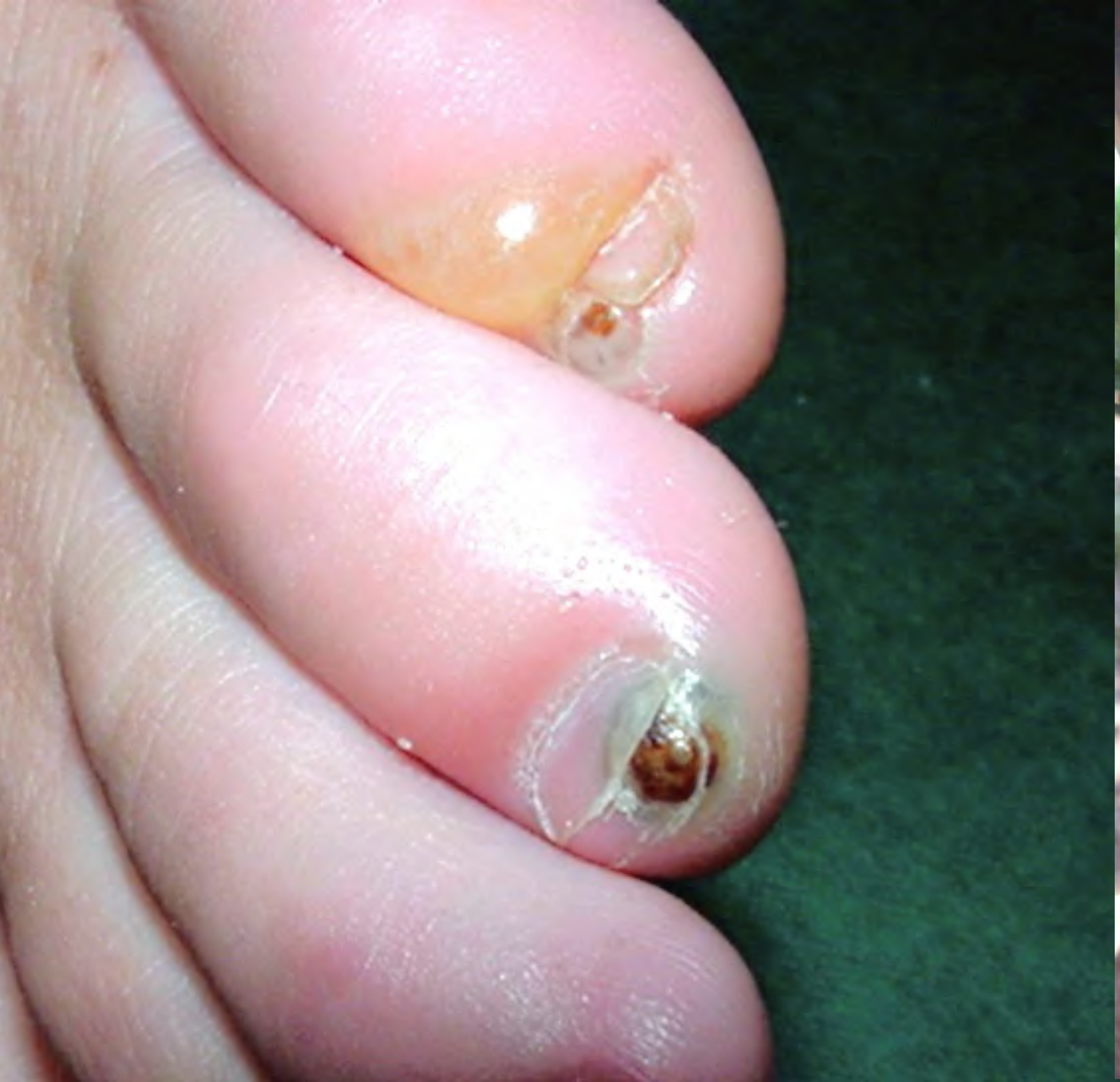
Remove

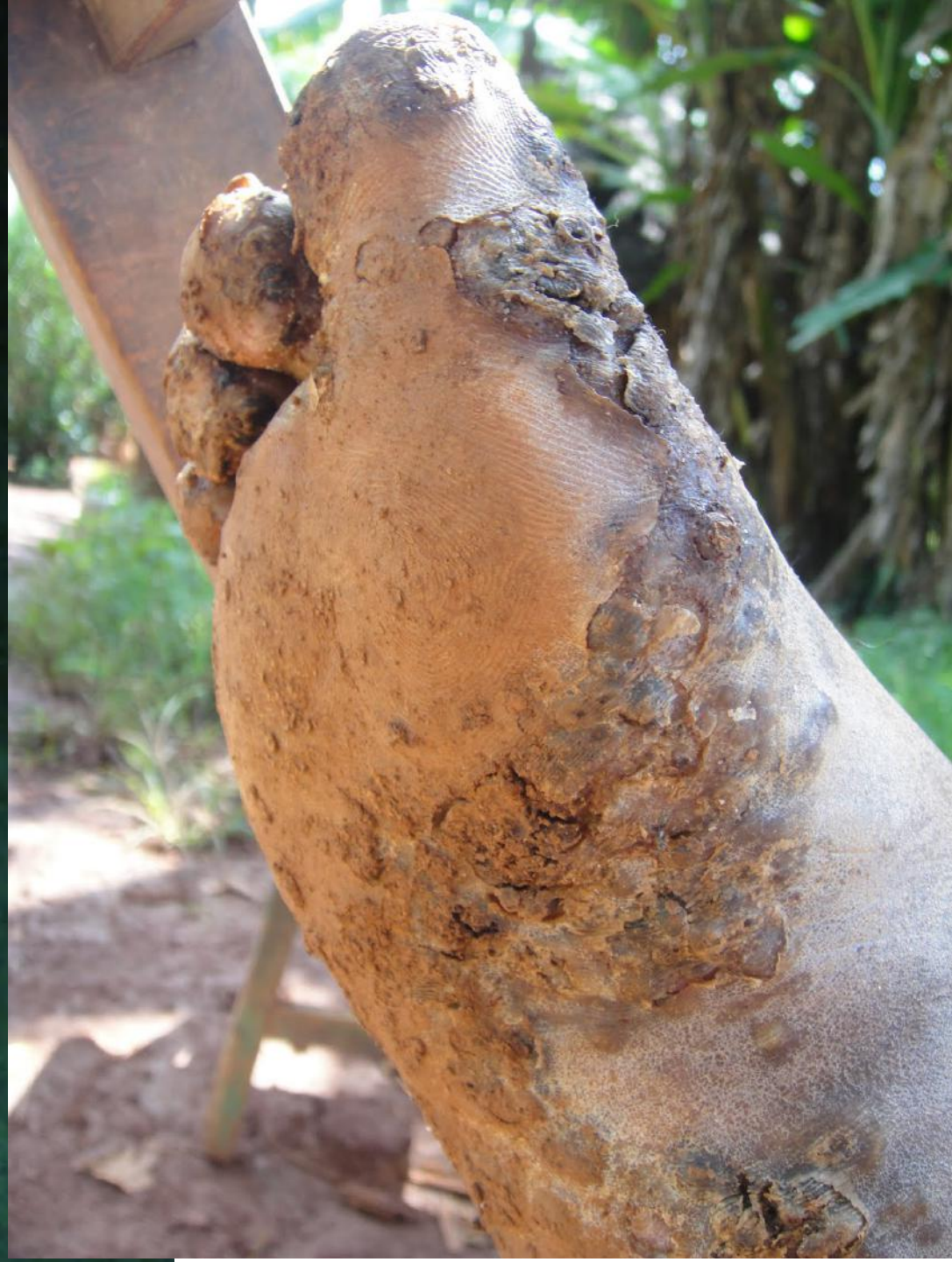
Tungiasis: place of acquisition



Tungiasis: body parts affected







Skin problems: infestations

Condition	**Distribution**	**Treatment**
Scabies	> Asia	Ivermectin
Bed bugs	Worldwide	Creams
Maggots – Tumbu flies	> Africa	Suffocate
Maggots – Bot flies	> Americas	Suffocate
Jigger fleas	> Africa	Remove

FEVER

66♂ Fever and reduced consciousness

Background

November	Accra, Ghana family funeral
12 December	'caught the flu' fever, headache, myalgia off work (security guard)
14 December	visited GP Dx bronchitis
16 December	drowsy friend calls ambulance

Examination

GCS	**8**
T	**38.7°**
P	**122**
R	**26**
BP	**112 / 68**

Jaundiced

No rash

No lateralising neurology

No stigmata of immunosupression

Lactate 5.7; HCO3 14

66♂ Fever and reduced consciousness

Initial Management

- Resus room
- Bloods and cultures
- IV fluids
- IV Ceftriaxone 2g

Further Management

- Urine catheter
- ICU opinion
- CXR
- CT head scan
- Urgent Blood film
- HIV point-of-care test

Investigations

Hb	**10.9**
WCC	**3.6**
Plts	**31**
INR	**1.6**
CRP	**253**
Urea	**29**
Cr	**386**
Na	**128**
K	**5.3**
Glu	**2.9**
Bil	**87**

66♂ Fever and reduced consciousness

Most likely diagnosis?

A **Falciparum malaria**

B **Lassa fever**

C **Leptospirosis**

D **Pneumococcal meningitis**

Case 1: 66♂ Fever and reduced consciousness

Most likely diagnosis?

A Falciparum malaria

B Lassa fever

C Leptospirosis

D Pneumococcal meningitis

Diagnosis

Severe falciparum malaria

Hyper-parasitaemia
Cerebral malaria
Acute Kidney Injury
Acidosis

Rx **IV Artesunate**

Mx **Transfer to ICU**

66♂ Fever and reduced consciousness

What is his prognosis?

1. **Severity**
2. **Clinical expertise**
3. **Age**

Geography: Reported cases of falciparum malaria by global region of travel (1987- 2006)

Region	Number of reported cases	%
Africa	20,744	96.4
South Asia	517	2.5
Far East & SE Asia	114	0.5
Central + S America	35	0.2
Oceania	46	0.2
Middle East	51	0.2
Caribbean	4	0.01

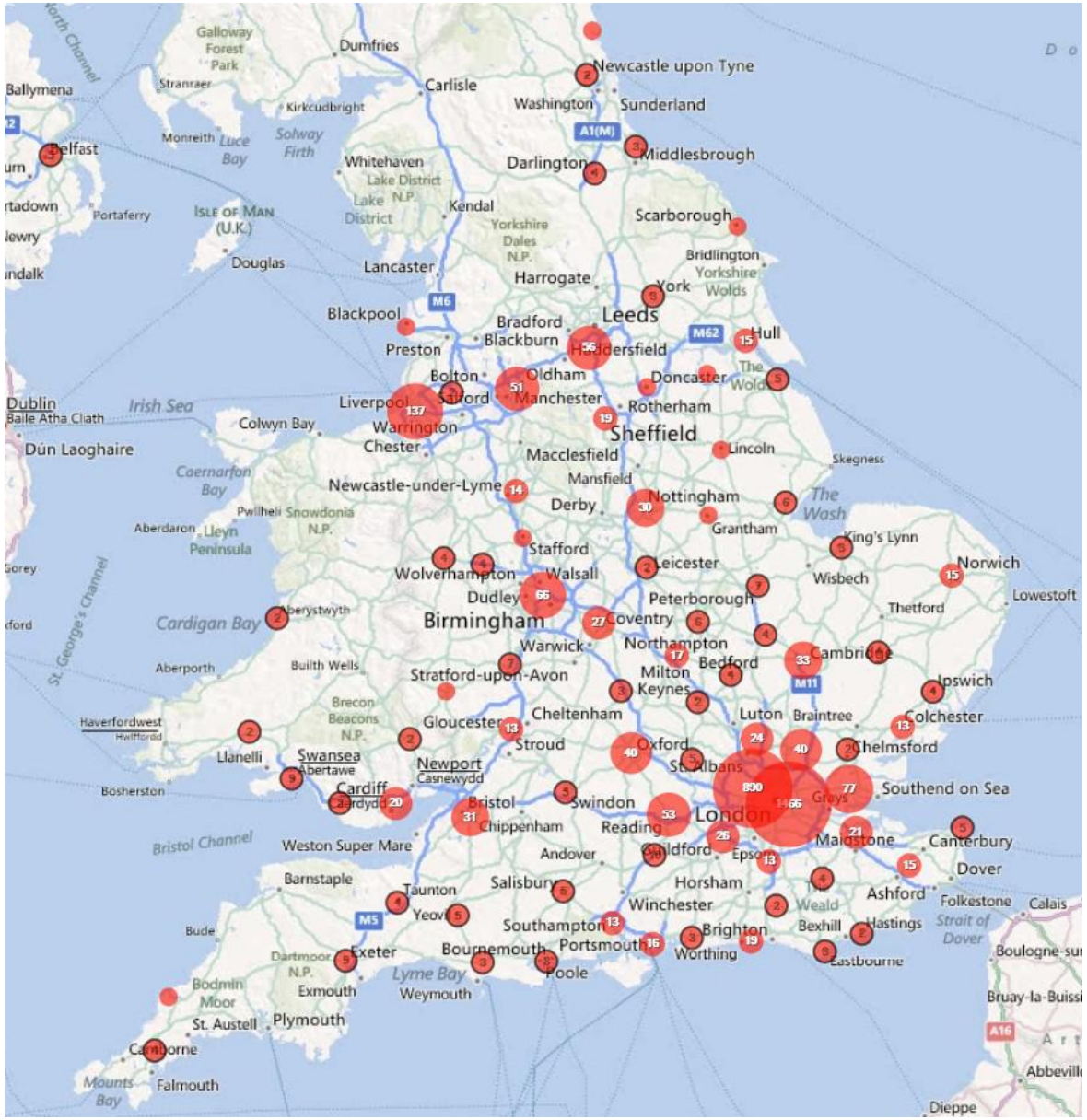
Checkley A M et al. BMJ 2012;344:bmj.e2116

History: UK cases falciparum malaria by purpose of travel (1987 – 2006)

Purpose	Number of cases	Number of deaths
VFR	13,215	25
Tourist	4,029	72
Business	2,105	24
Foreign visitor	3,331	15
UK citizen living abroad	1,010	15
Other	3,741	6

Checkley A M et al. BMJ 2012;344:bmj.e2116

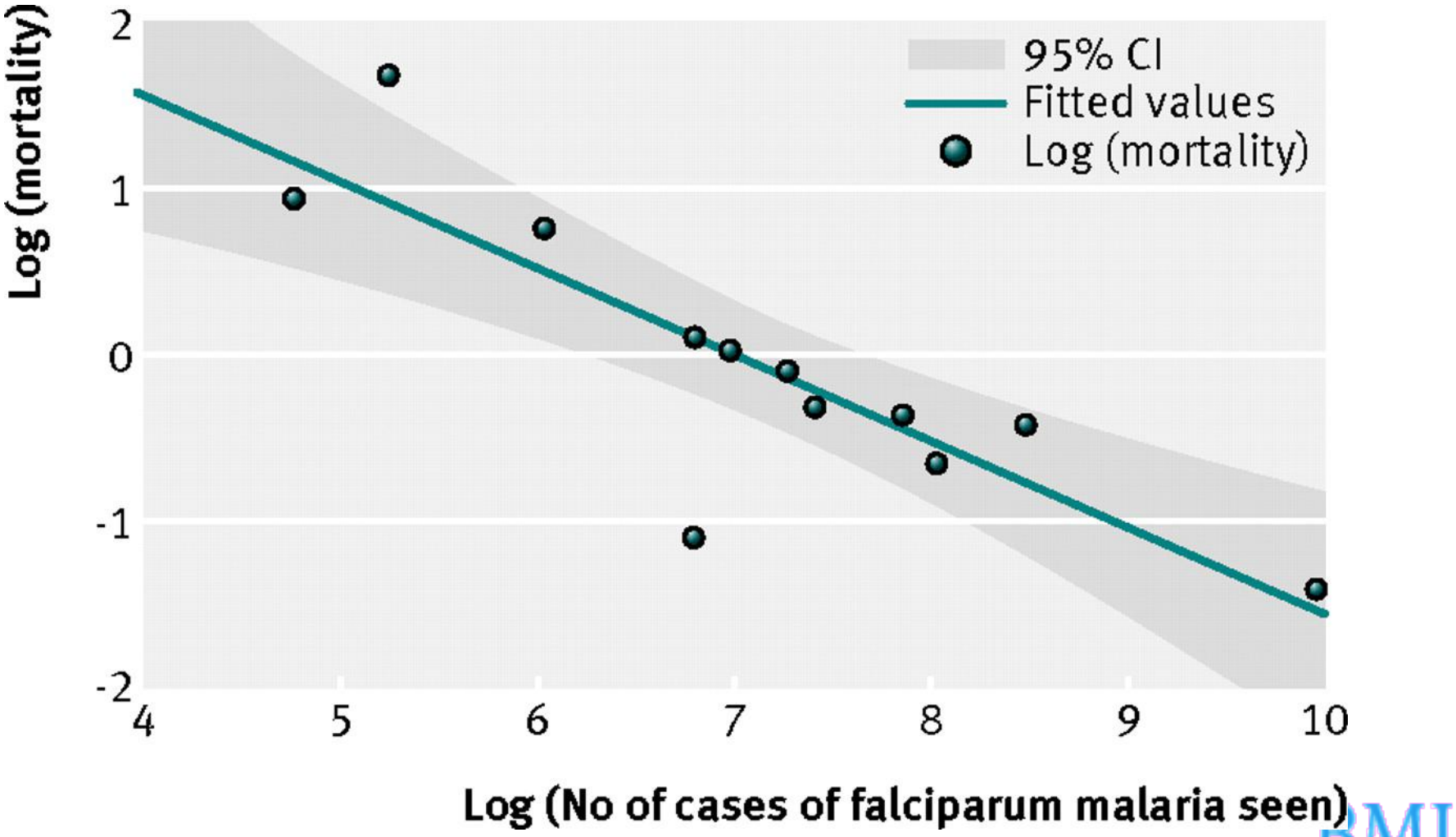
Geographical distribution of falciparum malaria: notifications in England and Wales, 2008-2010



Thanks to Claire Broderick
Hospital for Tropical Diseases
BMJ Open 2012

Mortality from imported P falciparum malaria as a function of number of cases seen in a UK region

1987 to 2006 (R2=0.67, P<0.001).

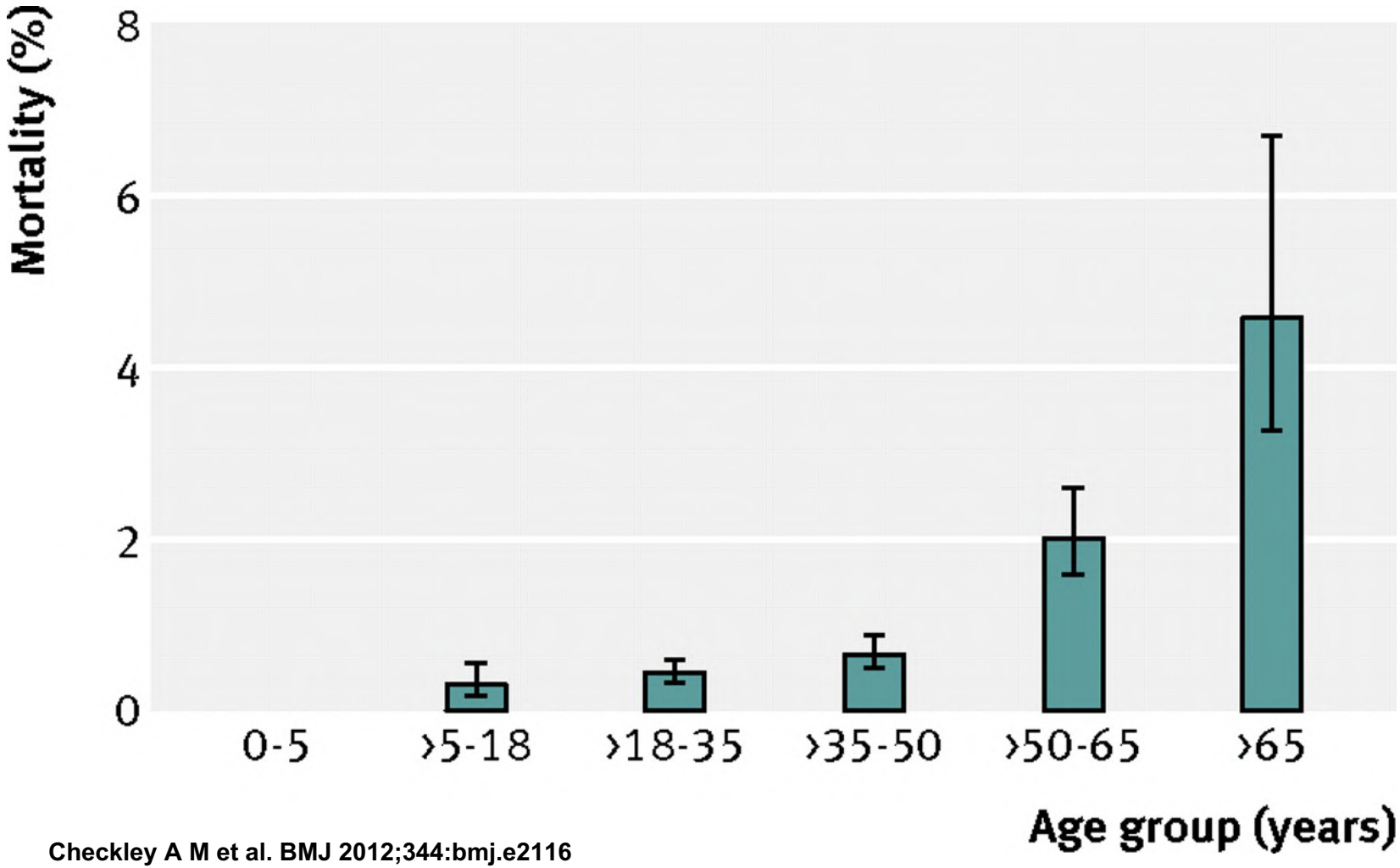


Checkley A M et al. BMJ 2012;344:bmj.e2116

Risk of death from imported falciparum malaria in the UK

RISK FACTOR	NO. OF FATAL CASES	CASE FATALITY
UK region where disease presented:		
Where **least malaria** is seen	10/119	**8.4%**
Where **most malaria** is seen	50/15,993	**0.31%**
Restricting to tourists only:		
Where **least malaria** is seen	6/20	**30%**
Where **most malaria** is seen	7/979	**0.7%**

Biology: Mortality from UK imported falciparum malaria by age
(1987 – 2006)



Checkley A M et al. BMJ 2012;344:bmj.e2116

BMJ

Could my patient have Umbongo Disease?

36w Fever and cough

History

7 days	Coryzal illness
6 days	Productive cough with rigors
4 days	Breathless
1 day	Haemoptysis
PMH	Pneumonia Rx GP (2009) Non smoker
SH	Recently from Philippines (urban) Child-minder in UK

Examination

Unwell
Difficulty speaking
Red throat

T	**38.9 ° C**
P	**120 reg**
R	**30 (sats 99% on 8L)**
BP	**95/51**
RS	**Equal expansion** **No wheeze or stridor** **Widespread crepitation**

36w Fever and cough

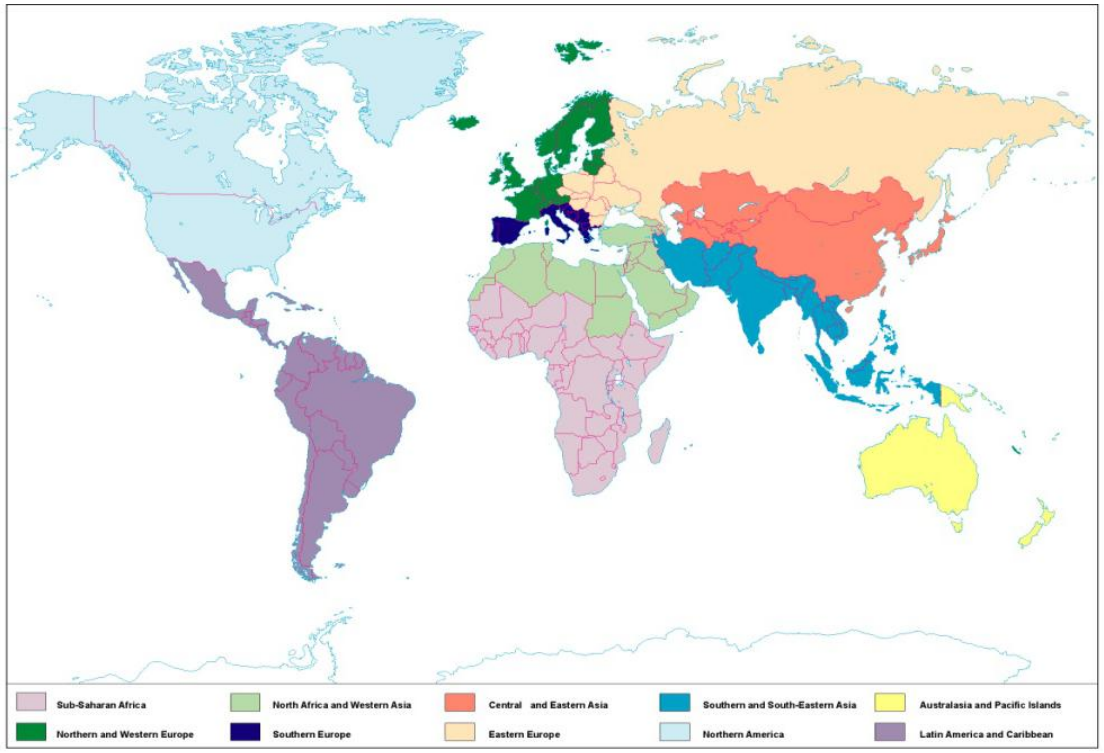
Arrival	Emergency Department	Acute illness “no foreign travel”	Severe Community Pnuemonia	Cefuroxime Clarithromycin
2 hours	Acute Medicine	Philippines Influenza-like ilness	Complicated By influenza	Add Oseltamivir
3 hours	Infectious Diseases	Manila 18 days ago No poultry No ill contacts	Could this be Mellioidosis?	Add Meropenem
4 hours	Intensive Care Medicine	Unwell	Severe Sepsis Resp Failure	ICU Intubation
12 hours	**Microbiology**	**Young MRSA+ Pneumonia**	**CA-MRSA Necrotising Pneumonia**	**Switch to Linezolid & Rifampicin & IVIG**

UK National Fever Service: Differential Diagnosis Algorithms

10 world regions

8 broad symptom categories

- Undifferentiated fever
- Fever with haemorrhage
- Fever with rash
- Fever with skin/soft tissue involvement
- Fever with respiratory symptoms
- Fever with GI symptoms
- Fever with jaundice or hepato/splenomegaly
- Fever with neurological symptoms



UK National Fever Service: *which type of Umbongo?*

24h Referrals from Hospital Consultants

0844 7788990

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LONDON

In summary:

Most travel health issues are not infectious

Understand your patient's behaviour risk

HIV is generally not an issue

Geography and history important

Diarrhoea, skin and fever main infectious problems

Judicious investigations

Most problems present < 2 weeks

Phone a friend if unsure

with thanks to a generation of consultants and registrars at the HTD