Infectious Disease cases in migrants

Eskild Petersen, MD, DMSc, DTM&H
Adjunct Professor of Tropical Medicine and Parasitology
Institute for Clinical Medicine
Aarhus University

&
Senior Consultant Infectious Diseases
The Royal Hospital
Muscat
Sultanate of Oman

Sultan Quaboo has been in power since 1970. At that time, there was 50 km tarred road in the country.

ProMed map: 320 global alerts (18th - 24th June 2018)

KSA
11 cholera
Jazan

PAK
2 +ve env WPV1
Total WPV1: 3

AFG
3 +ve env WPV1
Total WPV1: 3

IRN
CCHF

PLS
Foot & Mouth

YMN
10 Jun-cholera

Oman immunized 1.7 million people since April at a cost of 5 mil. OR = 15 mil USD
Last case in April 2017
Probably introduced from Yemen.

Malaria
Chinese women, worked 2 months in South Sudan without malaria prophylaxis. Admitted with 8 days fever P. falciparum 46%!
Recount: 20%
Treated with artesunate
Left hospital day 5
Lost to follow up.
An outbreak of locally acquired *Plasmodium vivax* malaria among migrant workers in Oman

**Authors:**

Mabela (Greater Muscat) outbreak 2015

Funded by an ESCMID grant

25 years old Bangla Deshi working in construction.

Admitted from private hospital with fever, agitated but oriented

**Labs:**

- Na+: 145
- K+: 3.7
- Creat: 118
- eGFR: 69
- pCO2: 40 mmHg (35 – 48)
- pO2 sat: 80%
- Lactate: 5.3

Rabies

Rabies in the final stage with hydrophobia.

Cat bite 6 months ago, arr. Oman 3 months.

Milwaukee Protocol:

Deep sedation, supportive treatment and Amantadine.

Pt had a cardiac arrest when we attempted to intubate him.

Autonomic disturbances in this stage not unusual.
Tetanus

28-year old man from Bangladesh
Thread on nail 2 days previously
Increased tonus including typical stiff abdominal muscles.
No autonomic problems
No tetanus immunoglobulin available in country
Managed by Mg++ infusions and recovered
after 2.5 weeks in the ventilator
- discharged and repatriated
ICU day 3: Acinetobacter baumannii in trachea

One abscess is drained
Culture negative
Entamoeba histolytica antibodies
1:8,000

TB incidence in Oman 2016

- TB incidence rate for all cases: 7.7/100,000
- For sputum positive: 2.3/100,000
- Total No of cases: 346 including new cases and 6 relapse cases
- MDR-TB new cases: 6 including 3 XDR

TB incidence in the country of origin for many migrants

<table>
<thead>
<tr>
<th>Country</th>
<th>TB incidence per 10^5 pop.</th>
<th>Uncertainty interval</th>
<th>TB MDR percentage</th>
<th>Uncertainty interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>554</td>
<td>311 - 866</td>
<td>30</td>
<td>20 - 39</td>
</tr>
<tr>
<td>Kenya</td>
<td>346</td>
<td>213 - 516</td>
<td>6.2</td>
<td>3.2 - 9.1</td>
</tr>
<tr>
<td>Tanzania</td>
<td>267</td>
<td>138 - 495</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pakistan</td>
<td>268</td>
<td>174 - 383</td>
<td>14</td>
<td>8.8 - 19</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>221</td>
<td>151 - 291</td>
<td>5.4</td>
<td>2.9 - 7.9</td>
</tr>
<tr>
<td>India</td>
<td>211</td>
<td>109 - 345</td>
<td>11</td>
<td>7.2 - 15</td>
</tr>
<tr>
<td>Russia</td>
<td>66</td>
<td>42 - 94</td>
<td>44</td>
<td>36 - 51</td>
</tr>
<tr>
<td>Oman</td>
<td>9</td>
<td>7.7 - 10</td>
<td>0.1%</td>
<td>&lt;0.1 - 0.34</td>
</tr>
</tbody>
</table>

WHO, Global TB Report 2017

40 year old Indian male admitted with bilateral pneumonia and respiratory failure
No known previous illness.
WBC 12.2 with 9.2 Neutrophiles
CRP 60
Intubated and sedated immediately
HIV screening: Pos
VL pending
CD4+ 96
BAL:
M. tuberculosis (PCR)
Rifampicin resistance: Not detected
This is what we should prevent!

Indian female, 5 years in Oman, screened at entry and every 2 years with chest X-ray.

Cough and weight loss over several months, admitted nightsweats and fever the last 2 weeks.

AFB 3+, PCR pos., Rifampicin sensitive

Miliary TB

If screening with IGRA and preventive treatment given this could have been prevented

22 years old female from Uganda,

2016

Chest X-ray show old TB.

Sputum negative

IGRA or Mantoux not done

2018

Screening 3+ AFB

INH resistant

Repatriated

Family contacts IGRA positive

Could this have been prevented by treatment of latent TB in 2016?

22 years old female from Uganda,

2016

Chest X-ray show old TB.

Sputum negative

IGRA or Mantoux not done

2018

Screening 3+ AFB

INH resistant

Repatriated

Family contacts IGRA positive

Could this have been prevented by treatment of latent TB in 2016?

National roll-out of latent tuberculosis testing and treatment for new migrants in England: a retrospective evaluation in a high-incidence area

Miriakat K. Laboce1, Matthew Burnham2, Almapa Japakone2, Duncan Parham1, Susan Sharp1, Heine Kursell2 and Deborah Zware2, 3, 4

Department of Infectious Diseases, The Royal Hospital

Department of Infectious Diseases, The Royal Hospital

Tracheal secretion from ventilator pt in Intensive care

Heavy growth of Micrococcus luteus

Klebsiella pneumoniae SS. pneuniae

Acinetobacter Baumannii

Ampicillin = Resistant

Amoxicillin/Clavulanate = Resistant

Ampicillin = Resistant

Ciprofloxacin = Resistant

Cefoxitin = Resistant

Cefuroxime = Resistant

Imipenem = Resistant

Gentamicin = Resistant

Mezlocillin = Resistant

Tetracycline/Trimethoprim = Resistant

Piperacillin/Tazobactam = Resistant

Amikacin = Resistant

Imipenem = Resistant

Ticarcillin/Clavulanate = Resistant

Tyrocidine = Sensitive

Tyrocidine = Sensitive

PLEASE INFORM INFECTION CONTROL NURSE.
Comparison of IncI2 plasmids carrying mcr-1

The grey area represents ≥95% similarity. The GenBank accession numbers for the plasmids are KP347127 for pHNSHP45, KY693674 for pOM97-mcr-1, KY012274 for pEc_20C0E13, and KX013539 for pBA77-mcr-1, respectively.