

## Current major events

### Thallium Poisoning, Iraq

Two Iraqi families developed symptoms of thallium poisoning after consuming a meal on January 21st. Patients have been transferred to Amman for care at the Jordanian Hospitals. The Poison Laboratory in Baghdad had detected thallium in specimens taken from patients and foods. Ten family members were identified as cases; all presented with abdominal pain, vomiting and dysphagia. Within 4 days, 9 (90%) case-patients developed lower extremity pain and paresthesia and hair loss. Three case-patients died and

one is clinically dead (case fatality rate=40%). Median onset of illness was 24 hours (range: 12-72 hours). WHO has sent blood, urine and cake specimens to Birmingham; Toxicology Laboratory to confirm and measure the concentration of Thallium in different specimens (according to IATA regulations to ensure the safe delivery of the specimens); and facilitated procurement of Prussian blue antidote through contacting the UK Department of Health as it was not available in Jordan and neighboring countries. Intentional contamination is suspected and a legal investigation by authorities in Baghdad is underway. Information and results from this investigation are still pending.

(Source: A report from WHO Office, Iraq)

### Editorial note

Thallium salts are extremely poisonous, and ingestion of more than 10-15 mg per kg of body weight can be lethal. Thallium poisonings are generally due to ingestion of the salts, and can be absorbed from the skin as well. Thallium has a half life in the body of up to 30 days, but this may be reduced to as little as 2 days with treatment.

When thallium enters the body, in the first few hours it distributes throughout the vascular space. After about 48 hours in the body, it starts entering the CNS and other tissues. As thallium is a heavy metal, its method of action is to bind to sulphhydryl groups in the body, which upsets many biochemical processes. It resembles potassium in size and charge, so it has a wide distribution volume. The body tries to excrete the thallium by secreting about 2/3<sup>rd</sup>s of it into the intestine (much of which is reabsorbed), and the remaining 1/3<sup>rd</sup> is excreted in the urine.

If the patient is seen within 6 hours of ingestion of the thallium, gastric lavage and induced emesis may be useful to try to stop the absorption of thallium into the body. Thallium can be successfully treated as a specific antidote exists and this is known as potassium ferrihexa-

cyanoferrate, or Prussian blue or Berlin blue. This works by sequestering the ions in the intestine, preventing their absorption. Unlike other forms of metal poisoning, activated charcoal is useful, and can help reduce the severity of the poisoning by disrupting the entero-hepatic circulation. Other treatments that may be tried include forced diuresis, treatment with potassium chloride, and peritoneal dialysis.

Thallium poisoning is a rare event. There is history of suicidal attempt by thallium by an 18-year male in Jordan in 1976; and a possible deliberate event in Iraq in 1981 involving about 100 persons. Both events were not well documented.

### Lessons learnt:

- Rapid recognition of a cluster of persons with unusual symptoms allowed rapid identification of the hazardous contaminant and saved lives.
- Coordination and cooperation demonstrated in this incident between agencies at all levels (government, private sector) and between countries is critical for immediate response to such events.

### Thallium

- a heavy metal which has no known biological function
- Salts of the metal are colourless, water-soluble and tasteless, so often pass unnoticed.
- Is bio-accumulative, passing up through food chains, and may accumulate in fish and shellfish, as well as in plants and animals
- Is highly regulated due to the health risks of occupational exposure



### Update on outbreaks

in the Eastern Mediterranean Region

**Thallium poisoning** in Iraq; **Whooping cough** in Western Darfur State, Sudan; **Suspected VHF** in Kapoeta, Sudan; **Suspected human A/H5N1** in Qatar

### Current public health emergencies of international concern

[cumulative N° of cases/deaths, CFR %]

#### Avian influenza

|           |                          |
|-----------|--------------------------|
| Egypt     | [43/19, <b>44.2%</b> ]   |
| Indonesia | [127/103, <b>81.1%</b> ] |
| Viet Nam  | [103/49, <b>47.6%</b> ]  |

#### Cholera

|            |                          |
|------------|--------------------------|
| D.R. Congo | [31913/98, <b>3.1%</b> ] |
| Kenya      | [169/5, <b>3.0%</b> ]    |

#### Plague

|          |                     |
|----------|---------------------|
| DR Congo | [20/5, <b>25%</b> ] |
|----------|---------------------|

#### Monkey pox

|          |                       |
|----------|-----------------------|
| DR Congo | [173/3, <b>2.3%</b> ] |
|----------|-----------------------|

#### Thallium

|      |                       |
|------|-----------------------|
| Iraq | [10/4, <b>40.0%</b> ] |
|------|-----------------------|

#### Rift Valley Hemorrhagic Fever

|       |                          |
|-------|--------------------------|
| Sudan | [698/222, <b>31.8%</b> ] |
|-------|--------------------------|

#### Suspected VHF

|       |                    |
|-------|--------------------|
| Sudan | [5/3, <b>60%</b> ] |
|-------|--------------------|

(\* = Unofficial figures)  
CFR = Case-Fatality Rate

