

COMMUNICABLE DISEASE TOOLKIT

IRAQ CRISIS

5. CASE DEFINITIONS

March 2003



WORLD HEALTH ORGANIZATION

WHO RECOMMENDED CASE DEFINITIONS

ACUTE WATERY DIARRHOEA

Three or more abnormally loose or fluid stools in the past 24 hours with or without dehydration.

To suspect a case of cholera:

Person aged over 5 years with severe dehydration or death from acute watery diarrhoea with or without vomiting.

Person aged over 2 years with acute watery diarrhoea *in an area where there is a cholera outbreak.*

To confirm a case of cholera:

Isolation of *Vibrio cholera* O1 or O139 from diarrhoeal stool sample

ACUTE HAEMORRHAGIC FEVER SYNDROME

Acute onset of fever of less than 3 weeks' duration in a severely ill patient **and** any two of the following:

- haemorrhagic or purpuric rash
- epistaxis
- haematemesis
- haemoptysis
- blood in stools
- other haemorrhagic symptom and no known predisposing host factors for haemorrhagic manifestations

ACUTE JAUNDICE SYNDROME

Illness with acute onset of jaundice **and** absence of any known precipitating factors **and/or** fever.

ACUTE LOWER RESPIRATORY TRACT INFECTION / PNEUMONIA IN CHILDREN <5 YEARS

Cough or difficult breathing

and

Breathing 50 or more times per minute for infants aged 2 months to 1 year

Breathing 40 or more times per minute for children aged 1 to 5 years

and

No chest indrawing, no stridor, no general danger signs.

Note: Severe pneumonia = Cough or difficult breathing + any general danger sign (unable to drink or breast feed, vomits everything, convulsions, lethargic or unconscious) or chest indrawing or stridor in a calm child

ACUTE FLACCID PARALYSIS (SUSPECTED POLIOMYELITIS)

Acute flaccid paralysis in a child aged < 15 years, including Guillain Barré syndrome **or** any paralytic illness in a person of any age.

To confirm case:

Laboratory-confirmed wild poliovirus in stool sample.

BLOODY DIARRHOEA

Acute diarrhoea with visible blood in the stool

To confirm case of epidemic bacillary dysentery:

Take stool specimen for culture and blood for serology. Isolation of *Shigella dysenteriae*.

MALARIA

Person with fever or history of fever within the last 48 hours (with or without other symptoms such as nausea, vomiting and diarrhoea, headache, back pain, chills, myalgia) with positive laboratory test for malaria parasites [blood film (thick or thin smear) or rapid diagnostic test]. Note that malaria in Iraq is currently caused by *P. vivax* only.

MEASLES

Fever **and** maculopapular rash (i.e. non-vesicular) **and** cough, coryza (i.e. runny nose) or conjunctivitis (i.e. red eyes)

or

Any person in whom a clinical health worker suspects measles infection

To confirm case:

Presence of measles-specific IgM antibodies

MENINGITIS

Suspected case:

Sudden onset of fever (> 38.0 °C axillary) **and** one of the following:

- neck stiffness
- altered consciousness
- other meningeal sign **or** petechial/purpurial rash

In children <1 year meningitis is suspected when fever is accompanied by a bulging fontanelle

To confirm case:

Positive cerebrospinal fluid antigen detection **or** positive cerebrospinal fluid culture **or** positive blood culture

NEONATAL TETANUS

Suspected case:

Any neonatal death between 3 and 28 days of age in which the cause of death is unknown **or** any neonate reported as having suffered from neonatal tetanus between 3 and 28 days of age and not investigated

Confirmed case:

Any neonate with normal ability to suck and cry during the first 2 days of life, and who between 3 and 28 days of age cannot suck normally and becomes stiff or has convulsions (i.e. jerking of the muscles) or both

Hospital-reported cases are considered confirmed

The diagnosis is entirely clinical and does not depend on bacteriological confirmation.

OTHER COMMUNICABLE DISEASES

These include all other communicable diseases not line-listed on the surveillance forms. The list below is non-exhaustive and details two outbreak-prone diseases in this category.

LEISHMANIASIS

Visceral leishmaniasis (VL)

Person with clinical signs of prolonged (>2 weeks) irregular fever, splenomegaly and weight loss, with serological (at peripheral geographical level) and/or (when feasible at central level) parasitological confirmation of the diagnosis.

Note: In endemic malarious areas, visceral leishmaniasis must be suspected when fever not responding to anti-malarial drugs persists for more than 2 weeks (assuming drug-resistant malaria has also been considered).

To confirm case:

Positive parasitology

- stained smears from bone marrow, spleen, liver, lymph node, blood
- or**
- culture of the organism from a biopsy or aspirated material

Positive serology (immunofluorescent assay, ELISA, Direct Agglutination Test)

Positive immunochromatography (dipstick)

Cutaneous leishmaniasis (CL)

Person with clinical signs and parasitological confirmation of the diagnosis.

Clinical signs: Appearance of one or more skin lesions, typically on uncovered parts of the body. The face, neck, arms and legs are most common sites. A nodule may appear at the site of inoculation and may enlarge to become an indolent ulcer. The sore may remain in this stage for a variable time before healing - it typically leaves a depressed scar.

To confirm case:

Positive parasitology (stained smear or culture from the lesion)

TYPHOID FEVER

Person with fever of at least 38° for 3 or more days is considered suspect if the epidemiological context is conducive.

Clinical diagnosis is difficult as it may vary from a mild illness with low grade fever and malaise to a severe picture of sustained fever, diarrhoea or constipation, anorexia, severe headache and intestinal perforation may occur.

To confirm case:

Isolation of *S. typhi* from blood or stool cultures.

FEVER OF UNKNOWN ORIGIN

Person with fever in whom all obvious causes of fever have been excluded.

UNKNOWN DISEASE OCCURRING IN A CLUSTER

An aggregation of cases with related symptoms and signs of unknown cause that are closely grouped in time and/or place.

A description of symptoms and signs that may be expected from chemical and biological agent exposure is provided in the annex.

MALNUTRITION

Severe malnutrition: In children 6 to 59 months (65cm to 110cm in height):

Weight for height (W/H) index < -3z scores (on table of NCHS/WHO normalized reference values of weight-for-height by sex).
Bilateral pitting oedema irrespective of W/H, in absence of other causes.

TRAUMA/ INJURY

Landmine/ UXO Injury

A person who has sustained, either directly or indirectly, a fatal or non-fatal injury caused by the explosion of a landmine or other unexploded ordnance (UXO).

Note: Landmine injuries relate to buried mines (e.g. anti-personnel and/or anti-vehicle mines). UXO injuries arise from explosive objects/devices that are typically above ground at time of detonation, such as cluster munitions that did not detonate on impact.

Other categories of trauma/injury used for surveillance in Iraq crisis:

Trauma/Injury other than Landmine/UXO injury

Road Traffic Accident

Other

MATERNAL DEATH

Death of a woman while pregnant or within 42 days of termination of pregnancy, regardless of the site or duration of pregnancy, from any cause related to or aggravated by the pregnancy or its management.

NEONATAL DEATH

Death of live-born infant in its first 28 days of life. It is a classification by age not cause.

ANNEX: CLINICAL DESCRIPTION OF EXPOSURE TO CHEMICAL AND BIOLOGICAL AGENTS

1. CHEMICAL AGENT EXPOSURE

Several routes of exposure are possible: inhalation of gas, dust or aerosol, direct skin and/or eye contact, and ingestion of contaminated food or drink. Absorption may occur by all of these routes leading to systemic features, in addition there may be local effects.

Typical syndromes:

CHOLINERGIC SYNDROME

Due to inhibition of cholinesterase, leading to accumulation of acetylcholine at muscarinic and nicotinic receptors e.g. resulting from exposure to **nerve gas (e.g. Sarin, Tabun, VX) or organophosphate pesticide**. Clinical features may develop within minutes.

Some or all of the following may be noted:

- Excessive sweating, drooling, runny nose, watery eyes.
- Small, pinpoint pupils, eye pain, blurred vision.
- Cough, chest tightness, prolonged wheezing expiration, increased bronchial secretions, tachypnoea, pulmonary oedema, respiratory depression, respiratory failure.
- Bradycardia, tachycardia, rise or drop in blood pressure.
- Anorexia, nausea, vomiting, abdominal cramps, diarrhoea, urinary and/or faecal incontinence.
- Muscle twitching, fasciculation, cramps, generalized weakness.
- Confusion, drowsiness, headache, coma, convulsions
- NB showing these signs and symptoms does not necessarily mean that a person has been exposed to nerve gas or organophosphate pesticides.

To confirm case: measurement of red cell cholinesterase activity is of limited value because of wide inter-individual variation; depression >20% is meaningful, however. Laboratory analysis of intact or hydrolyzed nerve agent in blood or urine.

NEUROTOXIN POISONING

Clinical description: progressive muscular paralysis resulting from absorption of a microbial toxin e.g. **botulinum toxin** produced by *Clostridium botulinum*. Time to onset may be 2 hours to 8 days after exposure (most commonly between 12 and 36 hours).

Typically causes a descending paralysis, starting with cranial nerves. Some or all of the following may be noted:

- Double vision, blurred vision, drooping eyelids
- Slurred speech, difficulty swallowing, dry mouth
- Muscle weakness affecting shoulders, then upper arms, lower arms, thighs, calves, etc.
- Paralysis of respiratory muscles, leading to respiratory failure and death

To confirm case: Laboratory confirmation of presence of toxin in serum or presence of bacterium or toxin in gastric contents, vomitus, faeces, implicated foods.

CELLULAR TOXIN

Clinical description: Generalized illness caused by a cellular toxin. The most likely toxin would be **ricin**, a glycoprotein extracted from castor oil beans (*Ricinus communis*). There may be a latent period of hours or days before features appear.

Some or all of the following may be noted:

- Bloody diarrhoea, vomiting and abdominal pain.
- Shock, fever.
- Pulmonary oedema, pneumonia.
- Seizures, depression of the central nervous system.
- Liver and kidney damage.
- Irritation to eyes, nose and throat
- Optic nerve damage.
- Allergic reaction.

To confirm case: Laboratory confirmation of presence of toxin in serum.

VESICANTS

Clinical description: severe irritation to eyes and skin often after an asymptomatic latent period, followed by tissue damage. The most likely agent would be **mustard gas**.

The eyes are particularly sensitive so the presenting features are usually ocular. Some or all of the following may be noted:

- Feeling of grittiness in the eyes, progressive soreness, hyperemia, oedema, lacrimation, blepharospasm, photophobia
- Increased nasal secretions, sneezing, sore throat.
- Coughing, hoarseness, dyspnoea, tight chest, chemical pneumonitis, bronchopneumonia.
- Nausea, retching, vomiting which may be prolonged and recurring
- Itching, erythema, discoloration, blistering of the skin, superficial or full thickness skin loss, ulceration
- Convulsions,
- Brief rise in white cell count, followed by leucopaenia
- Sepsis, shock

To confirm case: Laboratory confirmation of presence of alkylation products of sulphur mustard with haemoglobin, albumin and DNA in blood. Detection of sulphur mustard metabolites in urine.

PULMONARY AGENTS

Exert their pathophysiologic effect by reacting with water to form hydrochloric acid (e.g. phosgene, chlorine). Mucous membrane exposure leads to severe irritation and pain. Inhalation results in direct alveolar endothelial damage.

Clinical effects seen are dose-dependent.

Low levels can produce:

- lacrimation, rhinorrhea, coryza and salivation

Higher-level exposures will result in some or all of the following:

- more severe respiratory effects such as coughing, dyspnoea, wheezing and chest discomfort.
- Physical examination may reveal tachypnea, tachycardia, hypoxemia, wheezes and rhonchi
- Non-pulmonary effects include light-headedness, muscle pain, weakness and abdominal discomfort

To confirm case: No clinical diagnostic tests available.

2. BIOLOGICAL AGENT EXPOSURE

AFLATOXIN

- Fungal toxin produced by *Aspergillus flavus* and *A. parasiticus*.
- Main route of exposure is ingestion of contaminated food, inhalation of fungal spores also possible.
- Ingestion, usually over a number of days, causes liver damage with jaundice, fever, ascites and vomiting.
- May be fatal.

ANTHRAX

Clinical description: Illness with acute onset characterized by following clinical forms.

Localized (cutaneous): Skin lesion evolving over 1-6 days from papular through vesicular stage, to depressed black eschar invariably accompanied by oedema that may be mild or extensive.

Systemic forms:

- Gastrointestinal – abdominal distress characterized by nausea, vomiting, anorexia and followed by fever.
- Pulmonary (inhaled) – brief prodrome resembling acute viral respiratory illness, followed by rapid onset of hypoxia, dyspnoea and high temperature, with XRay evidence of mediastinal widening.
- Meningeal – acute onset of fever possibly with convulsions, loss of consciousness, meningeal signs and symptoms; commonly found in all systemic infections.

To confirm case:

Isolation of *Bacillus anthracis* from blood, lesions, discharges
or demonstration of *Bacillus anthracis* in a clinical specimen by microscopic examination of stained smears (vesicular fluid, blood, CSF, stools, pleural fluid)
or positive serology (ELISA, Western Blot, toxin detection, fluorescent antibody test etc.)

BRUCELLOSIS

Clinical description: Illness of acute or insidious onset, with continued, intermittent or irregular fever of variable duration, profuse sweating particularly at night, fatigue, anorexia, weight loss, headache, arthralgia and generalized aching. Local infection of various organs may occur with abscess formation.

To confirm case:

Isolation of *Brucella sp.* from blood or other specimen
or Brucella agglutination titre in one or more serum specimens: standard tube agglutination test > 160
or ELISA IgG, complement fixation test, Coombs IgG.

PLAGUE

Disease characterized by rapid onset fever, chills, headache, severe malaise, prostration, **with**

- Bubonic form: extreme painful swelling of lymph nodes (buboes)
- Pneumonic form: cough with blood-stained sputum, chest pain, difficult breathing.

To confirm case:

Isolation of *Yersinia pestis* in cultures from buboes, blood, CSF or sputum
or passive haemagglutination (PHA test, demonstrating an at least 4-fold change in antibody titre specific for the F1 antigen of *Y. pestis*).

SMALLPOX

- Virus, communicable person-to-person.
- Average 12-14 day incubation period.
- Acute-onset fever of 38°C (101°F) or more followed by a rash characterized by vesicles or firm pustules all in the same stage of development