Managing Plague in the Field
Human Plague Global Incidence

6 countries in 2019-2022: 1,722 cases (incl. 175 deaths)

Highly endemic countries:
- DR Congo: 1,292 cases (probable) / 79 deaths
- Madagascar: 398 cases (confirmed) / 82 deaths

Sporadic activity:
- China (11/5)
- Mongolia (9/6)
- Uganda (2/1)
- US (2019-2022, 14/9)
Plague is a bacterial zoonotic disease

Transmitted to humans by rodent flea with the bacteria or by handling infected animal

- **Bubonic plague**: Incubation 2–6 days
- **Pneumonic plague**: Incubation 1–3 days

Wild rodents

Commensal rodents
Animal form of plague is distributed by plague natural foci

- Y. pestis
- Sensible animal species (host)
- Adapted flea species (vector)
Plague worldwide: same human disease but different public health challenges

- Ecological conditions vary (hosts, environment)
- Different transmission risks
- Different epidemiological patterns
- Different public health challenges
  - Adapted control strategies
  - Local control capacities
  - Human behaviour
Plague in Central Asia/China

- Main host: gerbils or marmots (also camels)
- Huge natural foci but sporadic cases
- Mainly affects farmers and hunters
- Bubonic plague but high lethality
Plague in Africa

- Affects urban and rural areas
- Concerns domestic rodents
- Associated with poor living conditions
- High endemicity with severe outbreaks

Madagascar 2019-2022:
Pneumonic plague 9 to 18% of all cases
Lethality:
- Bubonic plague = 12 to 25 per.100
- Pneumonic plague = 16 to 67 per.100
Bubonic plague is a medical emergency

• Infection spreads via lymphatic system to regional lymph nodes.
• 2-6 days incubation followed by sudden onset of illness: Headaches, chills, fever, malaise and pain in the affected regional lymph nodes
• Bubo: inflammatory, swelling, very painful +++
Managing Bubonic Plague

• Case management
  ▶ Early diagnosis, early treatment
  ▶ Ciprofloxacin, Tetracycline, Doxycycline

• Control measures
  ▶ The patient is not contagious
    No quarantine needed
  ▶ +/- Chemoprophylaxis (Doxycycline) to persons living in the same home (supposed to be exposed to the same infected fleas)
  ▶ Vector control then rodent control
Pneumonic plague: is both a medical and a public health emergency

- Due to evolution of a bubonic plague or contamination by respiratory secretions
- 1-3 days incubation
- Without treatment, progresses rapidly to death within 48 hours of onset
Management of Pneumonic Plague

• Any suspect case should be treated
  ➤ Ceftriaxone, gentamycin

• Isolation of the patient

• Infection prevention and control
  ➤ Personal Protective Equipment
  ➤ Chemoprophylaxis (i.e. Doxycycline 200mg/day)

• Contact tracing + Chemoprophylaxis (7 days)

• Social mobilization

• Safe funeral practices
Resources

https://apps.who.int/iris/handle/10665/341495

For more information, write to Epiwin@who.int.