

Short Incubation Foodborne Outbreaks

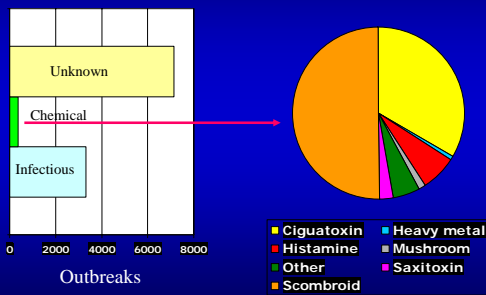
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Foodborne Illness

- Unintentional illness
 - Contaminants
 - Mistaken ingredients
- Intentional illness
 - Overt contamination
 - Obvious contaminant present
 - Covert contamination
 - Hidden or concealed contamination

Foodborne Outbreaks (eFORS) 1998-2005



Identifying short incubation outbreaks

- Rapid onset (<6 hours after meal)
 - Illness usually occurs within minutes to first hour
- Nausea, Vomiting, Cramps
- Organoleptic comments
- Symptoms usually resolve quickly
- Atypical symptoms may be present

Organoleptic comments

- Odd taste, smell, appearance of food
- Metallic, acidic, burning, alcoholic, or bitter; excessive of sweet, salt, or sour; "chemical-", "strong-", or "off"-taste
- Strange color or texture; oily or viscous appearance

Atypical Symptoms

- Neurotoxicity
- Cardiotoxicity
- Multi-system organ failure
- Localized GI effects

Neurotoxicity-1

- Paresthesias and cardiac dysrhythmias
 - Marine toxins (saxitoxin, brevetoxin, ciguatoxin, tetrodotoxin, etc)
- Cholinergic findings
 - Insecticides, muscarinic mushrooms, nicotine



Southern Poison, *Sphoerostichus papposorus*
Florida Marine Research Institute



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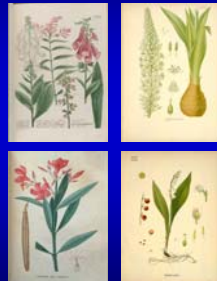
Neurotoxicity-2

- Generalized weakness
 - Botulism
- Agitation/Seizures
 - False morel mushroom
 - Tetramine



Cardiotoxicity

- Cardioactive glycosides
 - Oleander
 - Lily of the Valley
 - Digitalis foxglove
 - Red Squill



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Multi-system organ failure

- *Amanita phalloides*
- *Ricinus communis*
- *Abrus precatorius*
- Metals
 - Arsenic, Cadmium, Copper, Iron, Lead, Mercury, others



http://www.mushrooms.com/CAE/species/Amanita_phalloides.html



Localized GI effects-1

- Simple hydrocarbons
- Detergents
- Acids and alkalis
- Pre-formed toxins (Staphylococcus aureus, Bacillus cereus)



Localized GI effects-2

- Mushrooms: Trichloma, Rhodophyllus, Chlorophyllum, Boletes, Agaricus and Lactarius
- Ipecac
- Pharmaceutical overdose



Collect

- Associated **food**
- **Urine** from ill and non-ill persons with shared exposure
- **Initial vomitus** from ill persons
- **Field blanks** and unused containers
 - Determine container background contamination and interferents

Laboratory testing

- **Biological samples**
 - Analyze urine and vomitus for contaminants
 - Who? State PH labs, CDC, private labs
- **Food samples**
 - Many more analyses available for food
 - Who? State PH labs, CDC, private labs

Reporting outbreaks

- **Poison Control Centers**
 - Can provide diagnostic and treatment information
- **Centers for Disease Control and Prevention**
 - ROGUE: Rapid Onset of Gastroenteritis with Unexplained Etiology Working Group
- **Electronic Foodborne Outbreak Reporting System (eFORS)**

American Association of Poison Control Centers (AAPCC)

- AAPCC's Toxic Exposure Surveillance System (TESS) logs 2.2 million poison exposures annually from 61 of the 62 US PCCs.
- Regional PCCs log exposures or incidents that are uploaded to TESS every 4 – 6 minutes.

Toxic Exposure Surveillance System

- Early detection of potential chemical terrorism events
 - **Sentinel events**
 - **Potential threats**
 - **Chemical exposure at a single site**
 - **Spread of a chemical exposure from a single site or at multiple locations**

Centers for Disease Control and Prevention

- **Rapid Onset of Gastroenteritis with Unexplained Etiology (ROGUE)** working group
 - Reduce the number of foodborne illnesses with unknown etiology
 - Provide epidemiologic and laboratory assistance when possible
- Contact information:
 - NCEH: 770-488-3410
 - NCID: 404-639-2206

eFORS

- Electronic foodborne outbreak reporting system
- Voluntary reporting system
- Currently used by 50 states, 14 territories
- Improve availability of foodborne outbreak data

Webcasts

Available at:

<http://www.phppo.cdc.gov/phtn/default.asp>

- Recognition of Chemical Associated Gastrointestinal Foodborne Illness
- Recognition of Illness Associated With Chemical Exposure
- Recognition, Management and Surveillance of Ricin-Associated Illness

Contact numbers

- CDC National Center for Environmental Health (NCEH)
 - 770-488-3410, (Helen Rogers x3431)
- CDC National Center for Infectious Disease (NCID)
 - 404-639-2206
- Poison Control Centers
 - 1-800-222-1222

Acknowledgements

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