

**Sesame-seed paste caused an
international outbreak due to
Salmonella Typhimurium DT104
- the investigation in Norway**

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Background

- **DT104**
 - ***Salmonella* Typhimurium definitive phage type 104**
 - **Antibiogramme: ACSSuT**
- **Incidence DT 104 in Norway**
 - **up to 12 domestic cases per year (1998 – 2000)**
 - **Incidence rate: 0.3/100,000**
- **The Norwegian notification system**
 - **3-way system: Physicians, primary laboratories and national reference laboratory**
 - **Place of acquisition is being reported**



The cluster

- **April 2001: The cumulative incidence of *S. Typhimurium* from Buskerud County was unusually high: 11 cases**
- **Asian and Middle Eastern names**
- **June 2001:
Sweden isolated DT104 from sesame seed paste (Helva)**



Methods

■ Case definition:

- DT104
- Acquired in Norway
- Nov 2000 - Jul 2001

■ Controls

- 2 controls per case from the national population register
- Matched for origin based on name, geography, age and sex

■ Questionnaire:

- A helva hypothesis
- A hospital hypothesis
- Pictures of food items



Results:

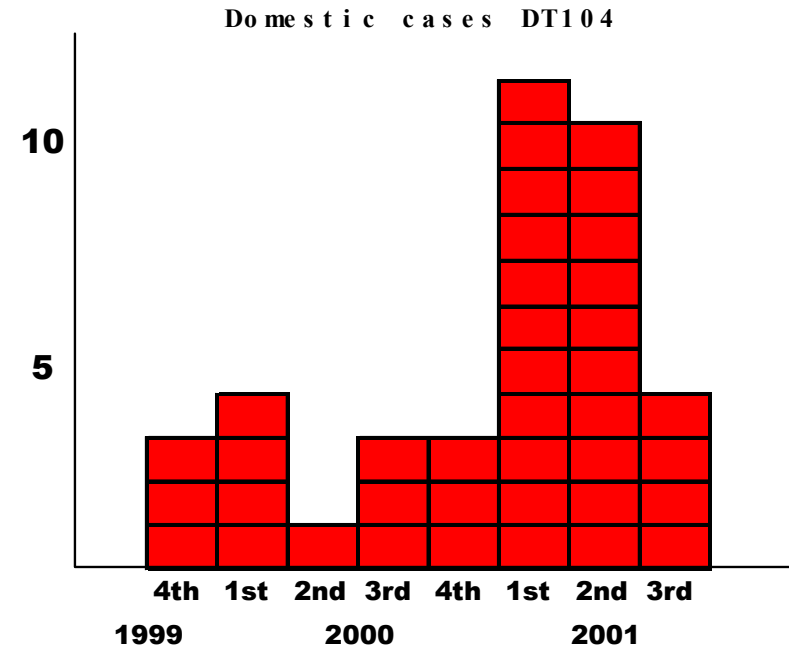
■ 28 cases

- Sex ratio: m/f = 0.4
- Median age: 23 years

■ Case control

- 18 cases
- 20 controls

- Ate helva the week before: $OR_e = 8.8$ (1.2 - 394)
- Ever eaten helva: $OR_e = 19.6$ (3.2 - +infinity)
- DT104 detected in helva from patient's kitchen, and in helva bought in a shop



Discussion

- **International networks**
 - Rapex, Enter-Net, personal contacts
- **Helva was the source of most of the Norwegian cases**
- **Cluster in Buskerud county**
 - Turkish community
- **Many cases of salmonellosis AFTER hospitalization**
 - Neonatal infections, post-surgery cases
 - Trigger: Antibiotic treatment ?
- **Some cases probably not directly linked to helva, especially native Norwegians**

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