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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