European outbreak of Salmonella Strathcona caused by small tomatoes, August – November 2011

BACKGROUND:
In September 2011 a small cluster of Salmonella Strathcona was identified in Denmark. An urgent inquiry was posted on the Epidemic Intelligence Information System (EPIS) for the Food and Waterborne Disease Network and cases were reported from Germany and Austria. An outbreak investigation was initiated to reveal the source in order to stop the outbreak.

METHODS:
A case was defined as a laboratory confirmed Salmonella Strathcona patient in Europe with a specific pulse-field gel electrophoresis (PFGE) pattern ill between August and November 2011. Hypothesis-generating interviews were performed in Denmark, Germany and Austria, and further studies in Denmark included comparative analyses of patients' shopping lists obtained from supermarket computers, and a case-control study with 25 cases and 56 population register controls matched on age, sex and municipality.

RESULTS:
In total, 43 cases of Salmonella Strathcona were reported in Denmark, 13 in Germany, two in Italy and one in Austria with the same PFGE. The comparative analyses of patients' shopping lists showed that 8/10 cases had bought a specific type of Datterino tomatoes prior to disease onset. In a case-control study illness was associated with a specific supermarket chain, mOR=16.9 [2.2-130], and having consumed elongated small tomatoes, mOR=28, 95% CI [2.6-300]. Trace-back investigation showed that the tomatoes came from an Italian producer and had been sold both in Germany and Austria, although a detailed European trace-back investigation could not be performed.

CONCLUSIONS:
Non-animal food vehicles are increasingly recognized as causing outbreaks in Europe. This outbreak emphasizes the challenges in investigating contaminated food items across borders in Europe. We recommend that cooperation between epidemiological investigators and food authorities within Europe are strengthened to address such outbreaks.