

Tularemia outbreak in Kosova, October 1999 – May 2000



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Risk factors ...

WATER AND SANITATION

One of the worst situations in Europe

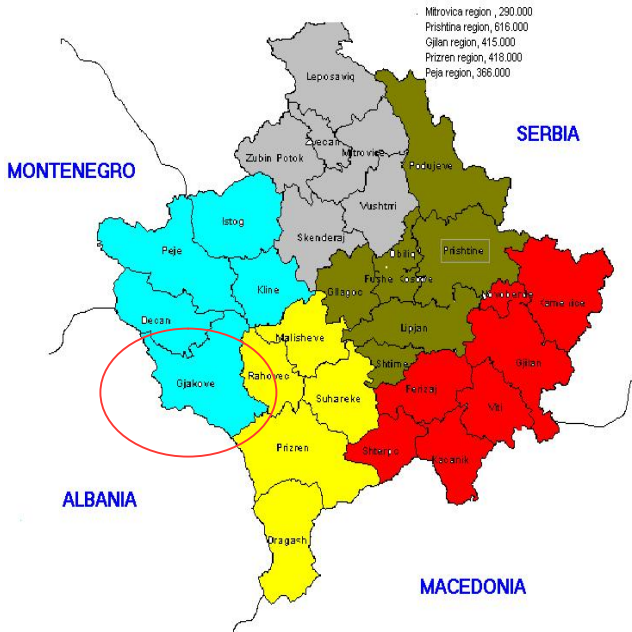
- 44% of Kosova population is connected to the public water supply
- 64% of rural population rely on water from unprotected shallow wells
- 28% of Kosova population is connected to sewage system



Hand dug wells are not protected and 74% of them show fecal contamination

First information

- On 2nd April 2000, IPH announced from the regional epidemiologist from Gjakova that Lymphadenitis coli cases are on the rise.
- In the village Brovina, municipality of Gjakova, 22 cases were suspicious .



First information



- The above mentioned, have used the drinking water from the same source – the local water-supplier, which was never chlorified before.
- Water from local water-supplier had dead rodents.
- People who consumed water from other sources were not infected.

Action taken

- Immediately after confirmation of first cases, we started the investigations of new cases and screening out in the field. Cases has been reported to WHO.
- As it was the first time that the disease was registered, Without the possibility to diagnose it here, WHO bring the experts from WHO Geneva, CDC Atlanta and microbiologists from Germany.
- Crisis committee was established within NIPHK and regional IPHs with the experts from relevant departments for the disease and the duties were determined for each health care level.

Action taken

- The Elisa and the micro agglutination method were used for laboratory confirmation.
- Hypotheses on the risk factors for tularemia infection were generated during home visits to households and from the clinical manifestations of tularemia.
- A hypothesis was developed to test if there was an association between rodents in a near houses and development of tularemia with food and water as the route of transmission.
- With the help of CDC Atlanta experts the environmental samples were taken from 64 local rodents.
- Then the protocol was conducted which contains:
 - ✓ The disease description (clinics and therapy)
 - ✓ Case definition
 - ✓ The epidemiology questionnaire
 - ✓ The guide for laboratory
 - ✓ Preventive measurements

Results

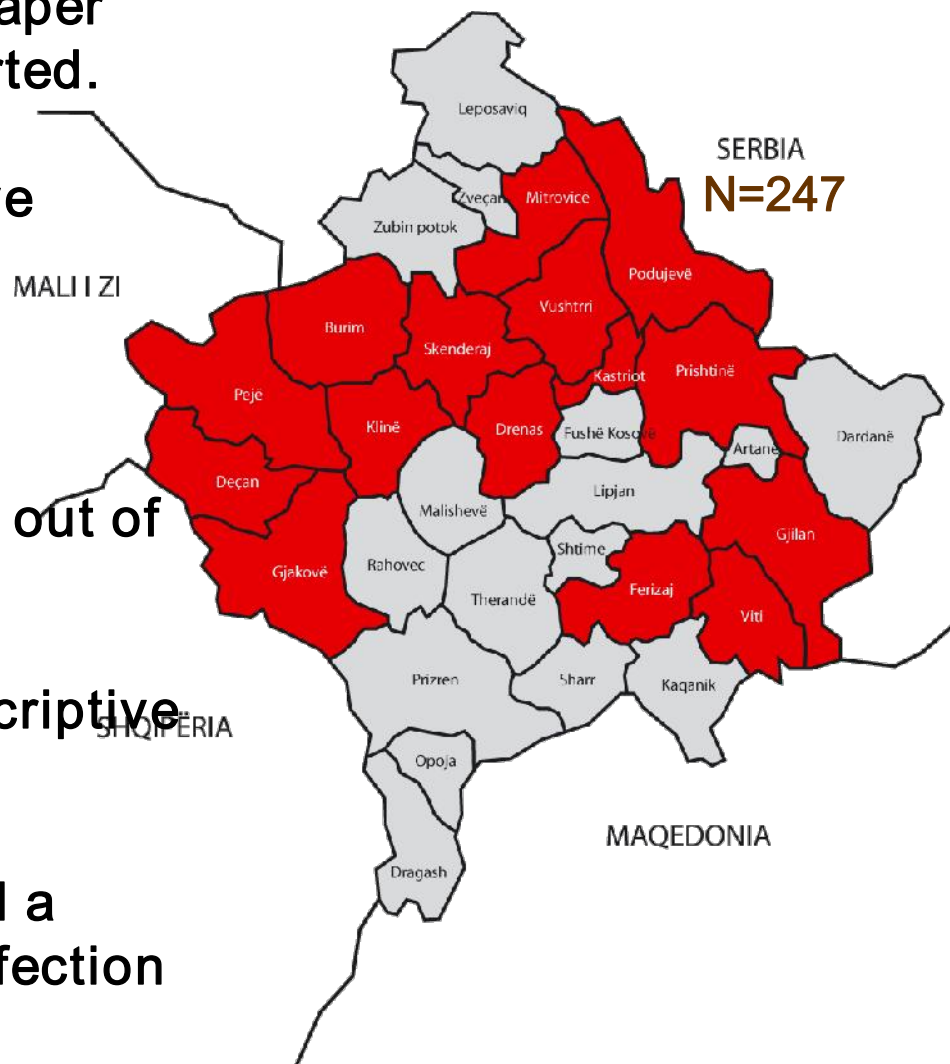
In the beginning by the information paper 823 new suspicious cases were reported.

At the same time in Kosova, a massive parotid epidemics started to spread.

During the outbreak 301 cases were registered and laboratory confirmed , out of this 247 were investigated.

Results have been analyzed with descriptive epidemiology: person, time, place.

At the same time has been conducted a case - control study for finding the infection source and route of transmission.



Results

- The majority of infected individuals 80 cases or 32.3% belongs to the age of 10-19 years old and 20-29 years old with 68 cases or 27.5%.
- The age of 0-9 was also affected with 13 or 27.5% of verified cases.
- The female gender was the mostly affected with 146 cases or 59.1% .
- The mostly affected profession was the households 42.1%, pupils 23.8% and farmers 17.8%
- The dominant clinical form of tularemia was glandular form (cervical) with 215 cases or 87%, ulcero-glandular with 10 cases or 6%, 22 positive cases were from controls.

Resluts

Risk factor of tularemia determined in case-control study in Kosova october 1999 - may 2000

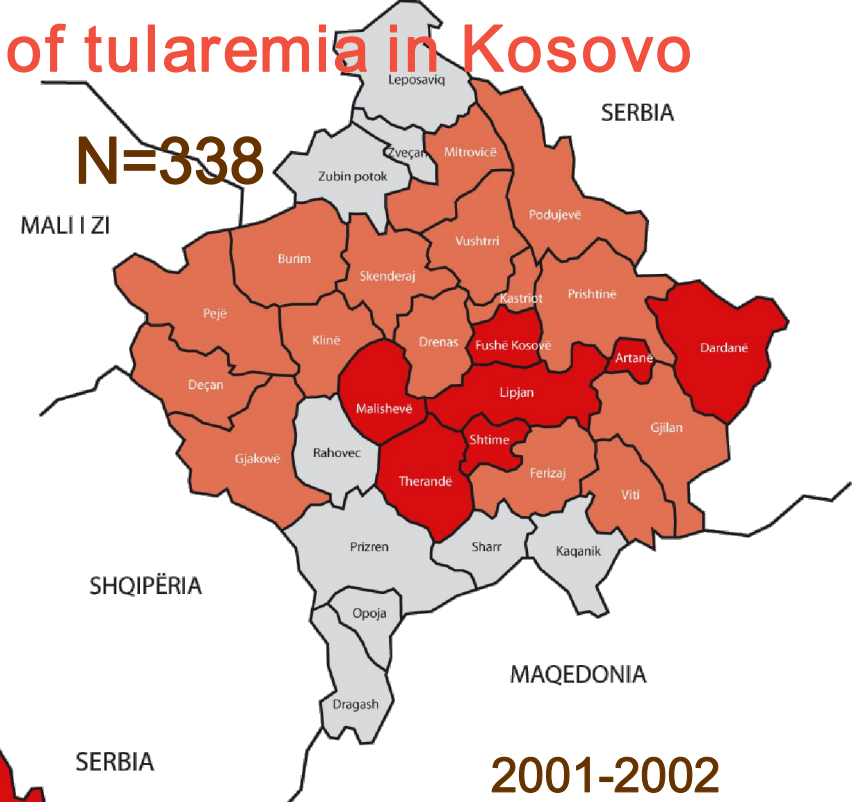
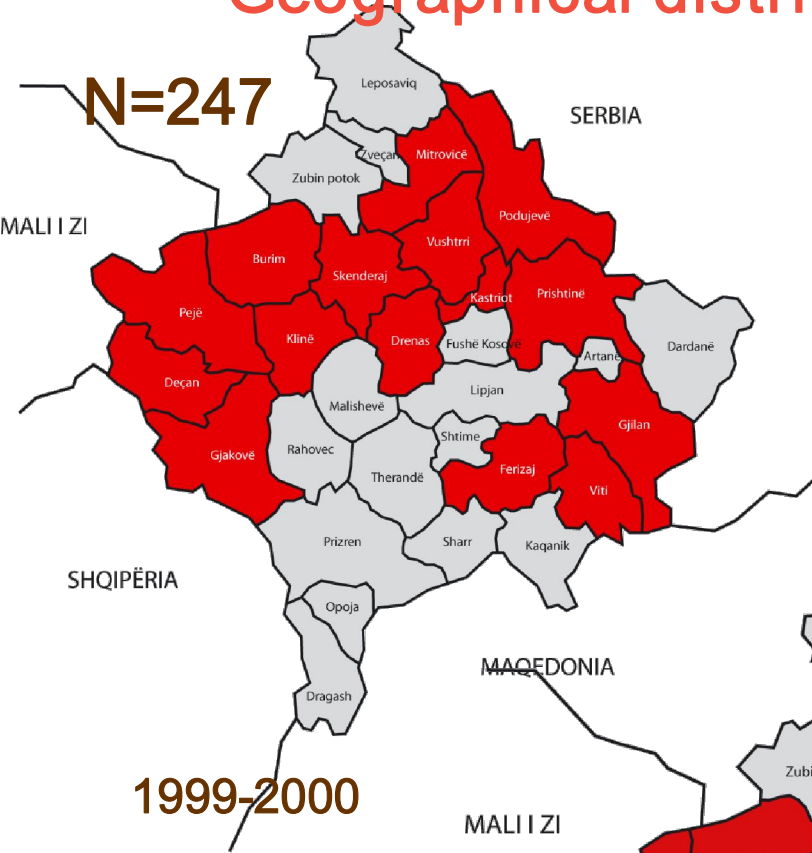
Risk factor	OR	95% CI
proscute	1.62	1.14-2.29
water (wail)	0.76	0.49-1.16
vegetables	0.73	0.31-1.74
milk	0.49	0.19-1.33
rabbit meat	0	0.00-14.9

Colected environmental samples during first boutbreak of Tularemia in Kosova, october 1999 - may 2000

Samples	number	pozitiv
Rodent feces	55	5
rodents liver	28	1
spleen	25	
cor/lung	6	1
carcasses	3	1

From the analysis of these samples and their culture f. tularensis was isolated from the feces and the liver of A. Agrarius and A. Flavicoli mice.

Geographical distribution of tularemia in Kosovo



The limits and difficulties for outbreak control!

- Unreported disease before in Kosovo.
- No information for disease situation in the neighboring countries.
- Post-war situation, not well organized, particularly a lot of problems in health.
- Weak management
- The lack of problem perception from the authorities and decision makers!
- The lack of financial recourses
- The lack of human recourses
- The limited funds from the donors
- The lack of an effective control system that would ensure safe production and commerce
- The large number of stores that sell food supplies without ensuring the required minimum of hygienic standard

Thank You
Questions