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Background

Recent studies recommend improving the microbiological diagnosis of childhood TB and point out the importance of evaluate the trends of the disease in this age group because they are an indicator of recent transmission in a community and can cause outbreaks. A report on the situation of tuberculosis in Europe suggests that in Spain and other low-incidence European countries there has been an increase in the proportion of cases among children born in these countries.

The aim of this study is to describe the microbiologic and epidemiological features of tuberculosis in the pediatric population in Navarra (Spain) between 2000 and 2014.

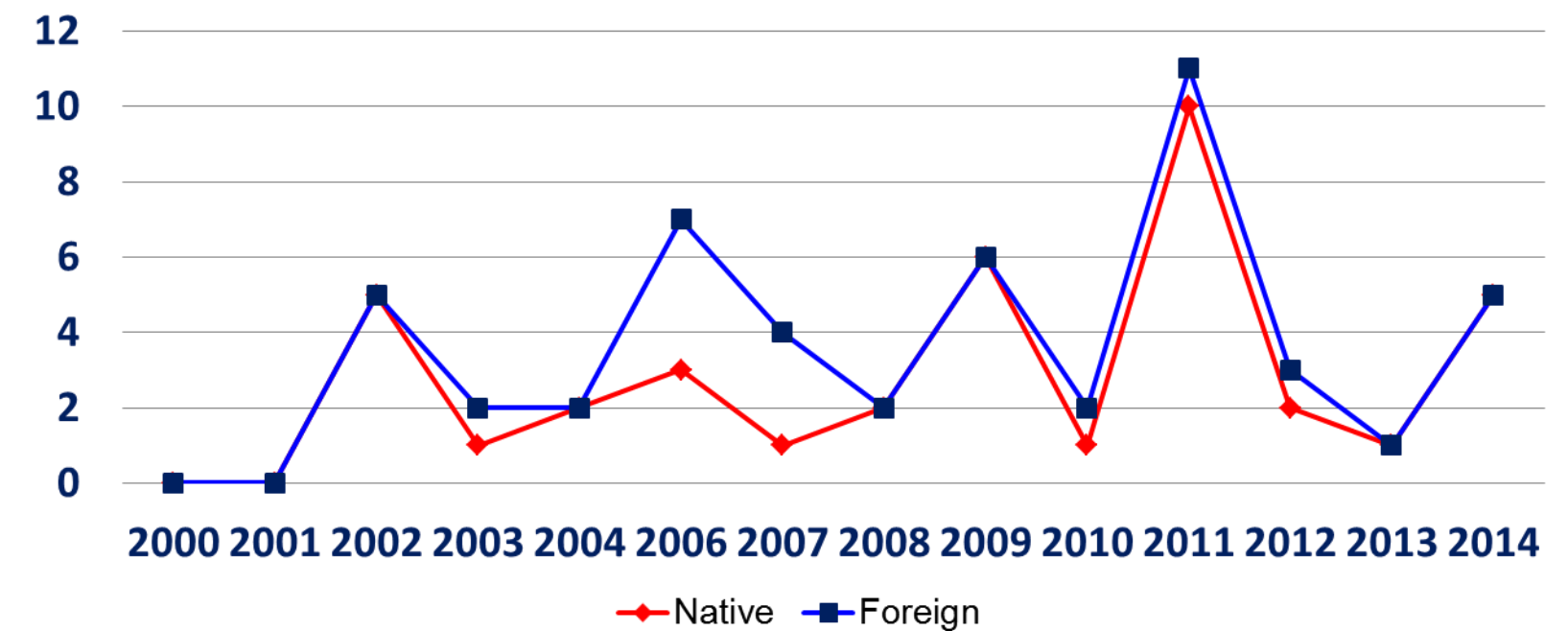
Methods

Retrospective study of *Mycobacterium tuberculosis* complex (MTC) isolated in children under 15 years in a tertiary care hospital, that serves a population of 640,000 inhabitants (100.600h <15a) in Navarra (Spain) between 2000 and 2014. The native and foreign terms are used to describe children born in Spain or abroad. The incidence was also calculated depending on the origin of their parents. The average proportion of immigrants during the study period was 9% (1.7% in 2000, 10.2% in 2014).

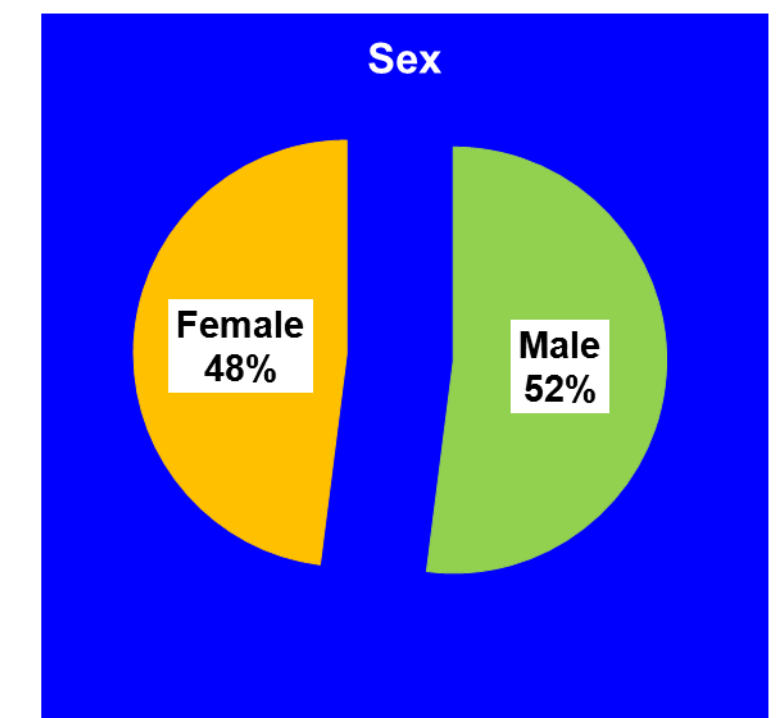
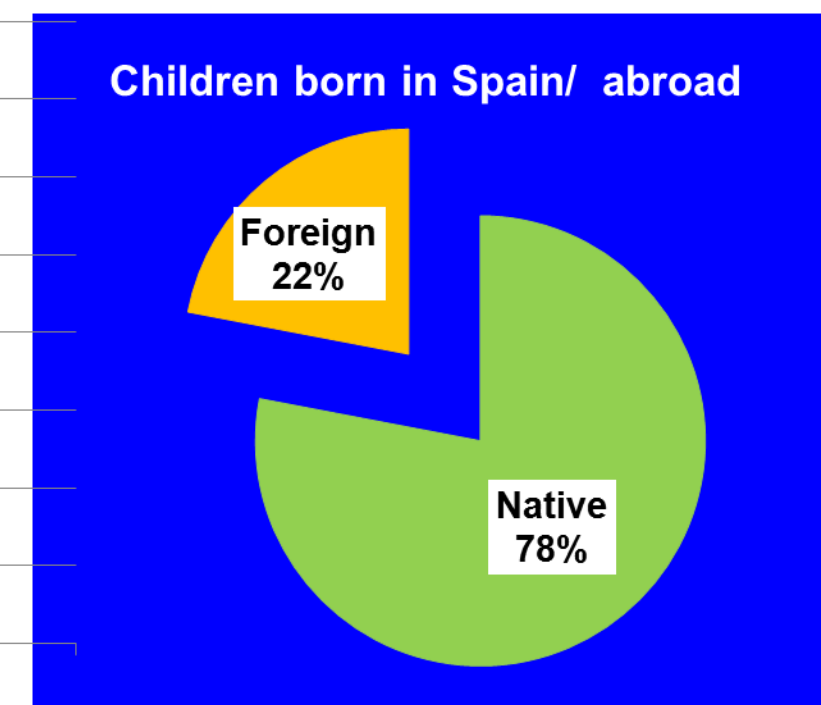
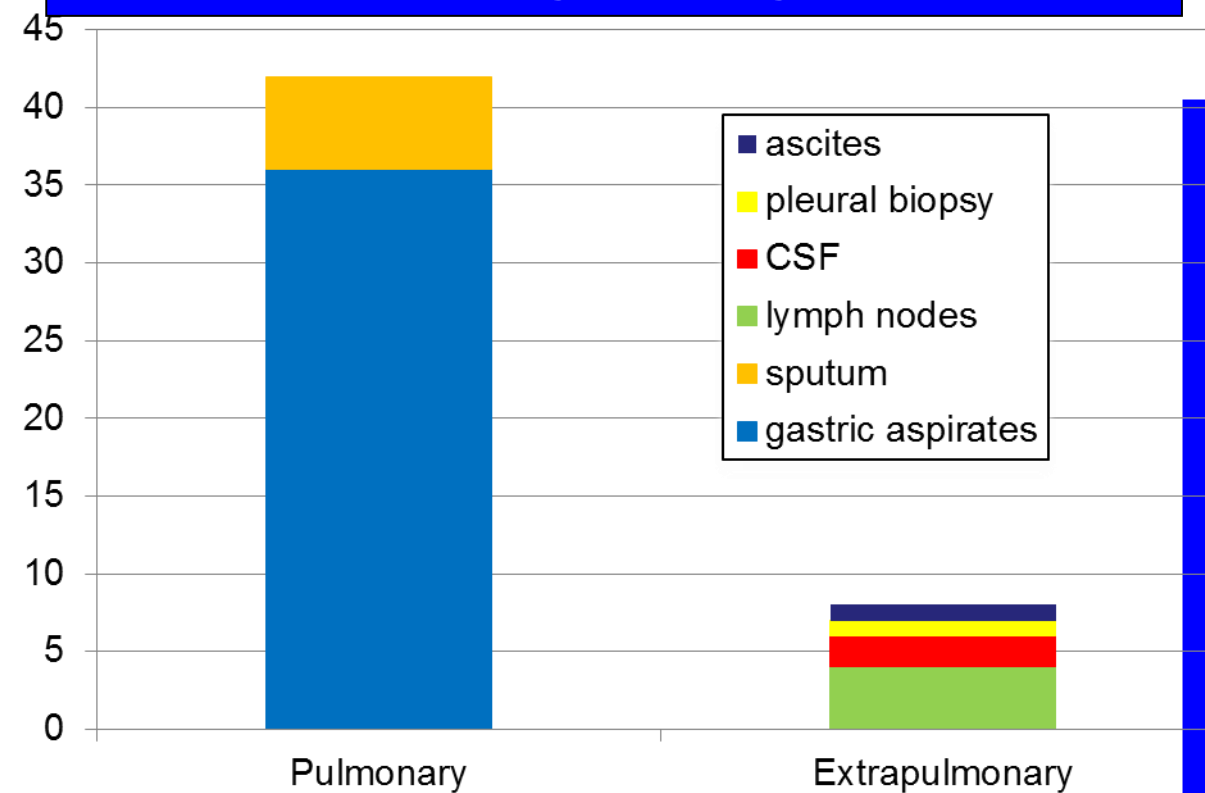
Results

50 strains of MTC were recovered in children <15 years. Paediatric cases accounted for 5.1% of all isolates of MTC. Incidences: 3.77/100,000h: 3.24 in natives and 8.79 in foreign born children. The incidence of cases corrected by parental origin was 1.99 per 100,000 h. in natives and 20,79 in foreigners. The corrected proportion of cases born in Spain averaged 48%. 2000-2007 incidences: 3.11 per 100,000 h., 4.38 from 2008 to 2014. The percentage of cases increased 29% in the second period, related to outbreak-associated TB. Smears: 4 positive (8.3%) of 44 made. Resistance to TB drugs: isoniazid 3/50 strains tested (6%), streptomycin 1/50 (2%), no resistance was found to rifampicin or ethambutol.

Nº of isolates by origin per year



Nº of isolates according to the origin of the samples



Conclusions

- The proportion of cases is higher in children born in Spain. The incidence is higher in children born abroad. By correcting these variables taking into account the origin of the parents the percentage is higher in children of foreign origin (foreign born children and children born to migrants) and incidence increases more than twice its value in that group.
- The majority of cases are pulmonary tuberculosis.
- The percentage of positive smears is very low because of the high number of gastric aspirate samples.
- The rate of resistance to isoniazid justifies the initial empiric treatment with 4 TB drugs in our community.