

Incidence of anencephaly in the Czech Republic: Long-term population based study

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Outline and methodics of the study

Anencephaly is a lethal anomaly of the central nervous system from the group of neural tube defects. The main goal of our study was to evaluate the incidence of anencephaly in the Czech Republic (and its possible trends) during the long-term period.

For this study, we have used data from the National Registry of Congenital Anomalies of the Czech Republic. We analyzed the incidence of anencephaly in births and in prenataly diagnosed cases in the 1964-2016 period. We also evaluated maternal age in these cases. The statistical analysis was performed by Poisson regression and Fisher's exact test.

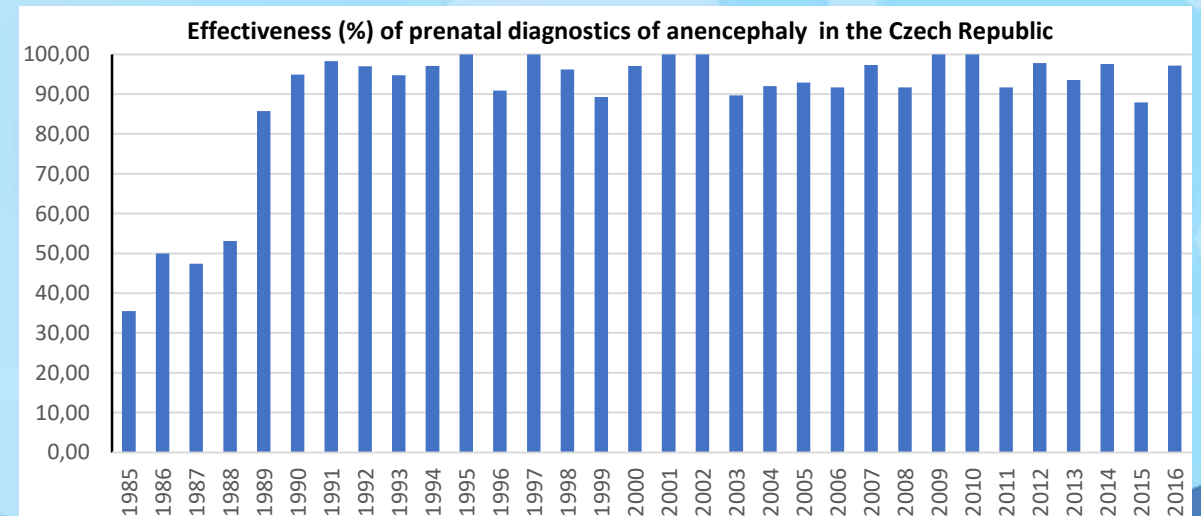
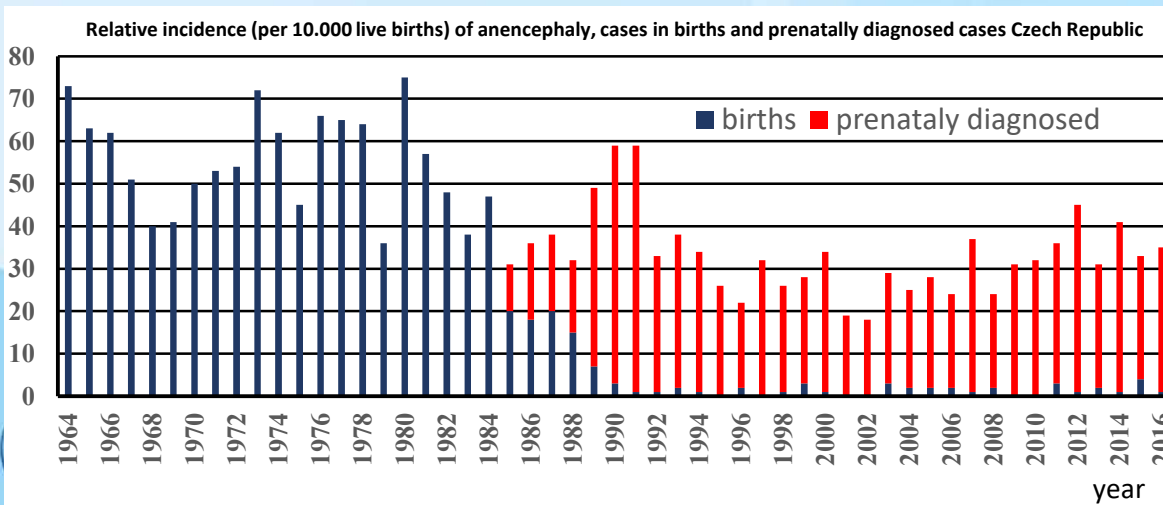
National Registry of Congenital Anomalies of the Czech Republic (NRCA)

- Unofficial monitoring in former Czechoslovakia started in 1961
- Official monitoring started on 1st of January 1964
- First stage (1964 – 1974) – only 36 selected diagnoses of congenital anomalies (CA) were registered
- Second stage (1975 – 1993) – 60 diagnoses of CA registered
- Third stage: (1994 – 2015) – all cases in terminations of pregnancies (TOPs), stillbirths and live births are registered (age limit for reporting = 15 years)
- Fourth stage 2016 – now: no age limit, additional diagnoses (rare diseases), electronic registration, OMIM and Orphanet codes
- www.vrozene-vady.cz/

Results:

During the study period there were 6 891 062 children born in the Czech Republic. Among those, 1232 children were born with anencephaly. Another 966 cases of anencephaly were diagnosed during prenatal diagnosis and these pregnancies were electively terminated, the total number of anencephaly cases was 2198. The total incidence of anencephaly significantly decreased during the study period ($p = 0.0136$). The incidence in births decreased significantly as well ($p < 0.001$).

Results



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