

# ULTRASOUND PRENATAL DIAGNOSTICS OF CONGENITAL ANOMALIES IN THE CZECH REPUBLIC



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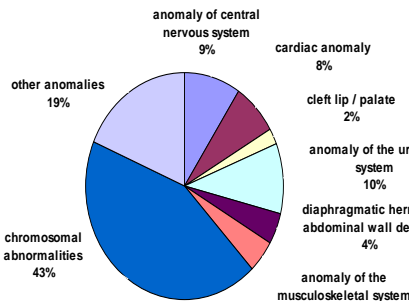
**Aim and type of study:** A retrospective study with data analysis of prenatal occurrence of selected types of congenital anomalies (CAs) in the Czech Republic in 1994 – 2006. An analysis of prenatal diagnostics contribution to the decrease of CAs frequency in the Czech Republic with a special attention to ultrasound diagnostic techniques.

**Material and methods:** A retrospective epidemiological analysis of incidences of prenatally diagnosed cases of selected types of CAs during 1994 – 2006 in the Czech Republic was performed along with an analysis of their proportion in corresponding total numbers of CAs. An analysis on gestational weeks at the time of diagnosis and/or pregnancy termination was also accomplished.

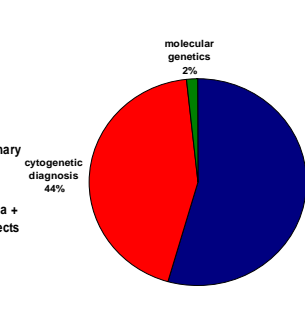
**Results:** In 1994 – 2006, there was a total of 8 705 CAs prenatally diagnosed in the Czech Republic, which led to 6 118 pregnancy terminations. Out of all CAs, 54 % were diagnosed by means of ultrasound, 44 % cytogenetically and 2 % by molecular genetic techniques. In chromosomal aberrations, between 20 – 30 % were referred to karyotyping by an pathological ultrasound finding/marker (25 % in Down syndrome). The highest rate of prenatal diagnostics was in anencephaly (100 %), encephalocele (100 %), gastroschisis (92 %), spina bifida (81 %), Down syndrome (74 %) congenital hydrocephalus, omfalocoele (67 %), cystic kidneys (59 %), renal agenesis (50 %) and diaphragmatic hernia 35 %. The mean gestational week at the time of diagnosis was 19.5 for total birth defects and 20.1 for pregnancy termination. Corresponding values (diagnosis x termination) in gestational weeks were as follows: Anencephaly 17.2 and 17.8, spina bifida 19.3 and 19.7, omfalocoele 17.6 and 18.0, gastroschisis 19.9 and 18.7 and Down syndrome 19.8 and 20.4.

**Conclusions:** In the period under the study, the number of prenatally diagnosed cases was increasing and the number of diagnosed, but non-terminated cases increased as well (late diagnostics, multiple pregnancies i. a.). The rate of prenatal diagnostics varied in the study period mostly between 50 – 100 % according to the type of defect. A proportion of ultrasound techniques also increased in this period along with their contribution to further diagnostics (karyotyping e. g.). Prenatal diagnostics also helps in finding associated defects and facilitating a decision on a prompt and adequate postnatal health care in correctible defects with consequences on perinatal mortality and morbidity rates.

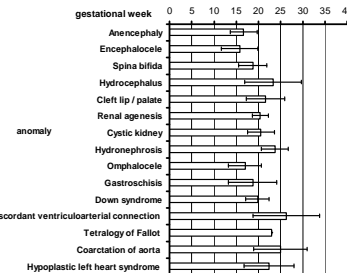
Prenatal diagnosis of congenital anomalies in the Czech Republic between 2000 - 2006



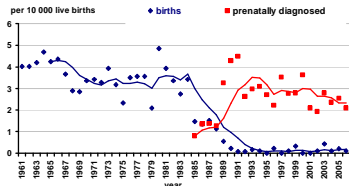
Prenatal diagnosis of congenital anomalies in the Czech Republic between 2000 - 2006



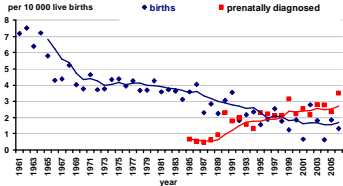
Week of gestation by prenatal diagnosis of congenital anomalies in the Czech Republic between 2000 - 2006



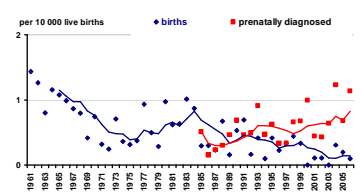
Incidence of anencephaly in the Czech Republic between 1961 - 2006



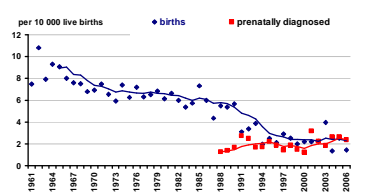
Incidence of spina bifida in the Czech Republic between 1961 - 2006



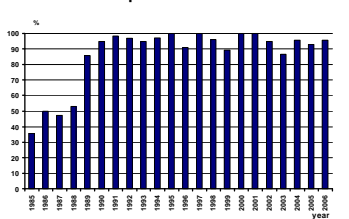
Incidence of encephalocele in the Czech Republic between 1961 - 2006



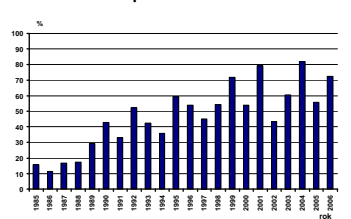
Incidence of hydrocephalus in the Czech Republic between 1961 - 2006



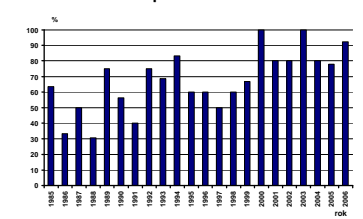
Efficiency of prenatal diagnosis - anencephaly in the Czech Republic between 1985 - 2006



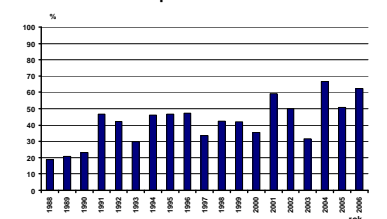
Efficiency of prenatal diagnosis - spina bifida in the Czech Republic between 1985 - 2006



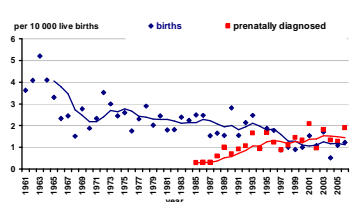
Efficiency of prenatal diagnosis - encephalocele in the Czech Republic between 1985 - 2006



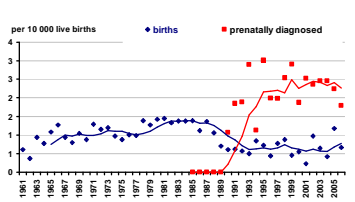
Efficiency of prenatal diagnosis - hydrocephalus in the Czech Republic between 1988 - 2006



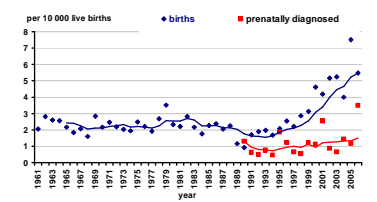
Incidence of omfalocoele in the Czech Republic between 1961 - 2006



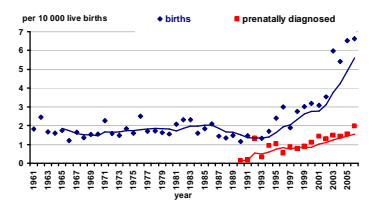
Incidence of gastroschisis in the Czech Republic between 1961 - 2006



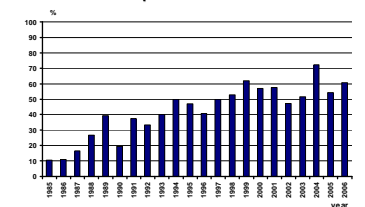
Incidence of renal agenesis in the Czech Republic between 1961 - 2006



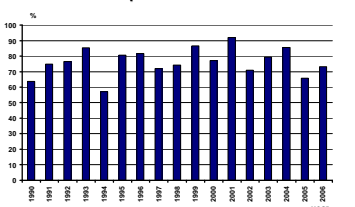
Incidence of cystic kidney in the Czech Republic between 1961 - 2006



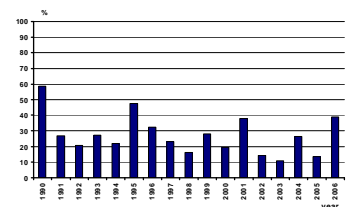
Efficiency of prenatal diagnosis - omfalocoele in the Czech Republic between 1985 - 2006



Efficiency of prenatal diagnosis - gastroschisis in the Czech Republic between 1990 - 2006



Efficiency of prenatal diagnosis - renal agenesis in the Czech Republic between 1990 - 2006



Efficiency of prenatal diagnosis - cystic kidney in the Czech Republic between 1990 - 2006

