Analysis of children with congenital hypothyroidism in neonatal disease screening for 20 years

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Objective
To analyze the treatment and prognosis of children with congenital hypothyroidism diagnosed by neonatal screening.

Methods
Give oral medication to all children with CH or high TSH (TSH > 10) diagnosed by screening at Jinan Newborn Screening Center from 1996 to 2016. Children with CH can try to stop the drug after 2-3 years. Children with high TSH can try to stop taking drugs after half a year. retrospective analysis of the treatment and prognosis of all the children.

Result
A total of 1266,485 cases were screened, among which 522 cases were diagnosed with CH, the incidence of CH was about 1/2426, and 227 cases were discontinued after 2-3 years of treatment, with the withdrawal rate of 43.5%. There were 305 cases with high TSH, and 35 cases still failed to stop the drug after 2-3 years of treatment, accounting for 11.48% of the cases with high TSH. Among the children needing medication, 75 cases were referred and lost to follow-up. 87.22% of children with CH without drug withdrawal had abnormal thyroid B, and 46.81% of children with CH without drug withdrawal had abnormal thyroid B, the difference was statistically significant (P < 0.05). There were 827 cases of children with CH and TSH, including 12 cases with short stature and 4 cases with 21-trisomy. The incidence of CH and TSH combined with short stature was 1.45% lower than 3% in the normal population, and the incidence of CH combined with 21-trisomy (1/207) was significantly higher than that in the normal population (1/2426).

Conclusion
Children with CH diagnosed by neonatal screening have a higher rate of discontinuation after standard treatment; Part of children with high TSH may be converted to permanent hypothyroidism; The condition of thyroid B ultrasound has important guiding significance for the prognosis of children; Children with CH and high TSH have a good prognosis through early formal treatment; It should be noted whether 21-trisomy children have congenital hypothyroidism.