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Environmental toxins may take a toll on newborns: Navi Mumbai study

Malathy Iyer, TNN | Apr 28, 2013, 12:48 AM IST



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A medical study conducted among 1,000 children born in a Navi Mumbai hospital could be an indicator of the growing effect of environmental toxins on the human reproductive system.

The study, which was presented at the 24th congress of the European Society for Paediatric Urology in Genoa, Italy, on Friday, showed there is a growing incidence of genital abnormality among boys possibly because of the increasing exposure to endocrine disruptor chemicals. Known as phthalates and bisphenol-A, these chemicals are used in plastic bottles, food wraps, cosmetics, toys, etc. Experts say that chemicals in pesticides, painkillers and cigarettes too can disrupt the hormone system.

The study was conducted by Dr Arbinder Singal, a paediatric urologist with MGM Hospital in Vashi. His team checked 1,154 children on the first or second day of birth for genital abnormalities.

An increase in incidence of male reproductive disorders has been noted all over the world, said Singal. "Such disorders are thought to be the result of chemical exposure that interfere with the sex hormone

during development and sex differentiation which happens during 8 to 12 weeks of foetal development," he said.

The Navi Mumbai study noticed an alarming increase, almost 200%, in the incidence of undescended testicles. "We found almost 5% of the full-term newborn male babies had undescended testes," he told TOI. The male hormone, testosterone, is produced in the testicles, which are two oval-shaped male sex organs located inside a small sac called the scrotum that is located under the penis. The last study in India done in 1972 showed an incidence of 1.6%. "If we include milder forms of undescended testes, the incidence may be as high as 8.7%," he added.

In 70% of the cases, testes descend within the first few months of life. But what is worrying is that 30% will need surgical correction. "An extrapolation of our results suggest that about 7 lakh babies would be born in India with undescended testes. Even if there is natural correction in 70% of the children by 6 months of age, there would still be 2.1 lakh babies every year who will need surgery for the condition in India," he added. If this condition is not treated, it could lead to fertility problems, torsion and cancer formation.

The team also found a high incidence of hypospadias, a condition in which the "pee-hole" isn't aligned with the opening of the penis. "We calculated the incidence at almost 1 in every 126 male babies. Extrapolating this data, over 1 lakh babies will be born with hypospadias in India," he said.

Senior paediatric surgeon Dr Santosh Karmakar said the incidence of undescended testes does seem high. "However, further studies are required to authoritatively say that environmental toxins are the main reason," he said. Another doctor said the high incidence could be the result of better detection rates.

Dr Vijay Yewala, a Navi Mumbai-based paediatrician who will be the next president of the Indian Academy of Paediatrics, said, "If one looks at previous studies, this incidence is very high. It clearly shows that there is a hormonal influence, but we need to follow up and study these patients."

Dr Singal said his results should serve as a wake-up call on environmental pollution. "All vegetables and fruits which come to our markets in metros have some exposure to chemicals and it's worrisome to think what we will see coming up in next few years," he added.

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