

Hairspray is linked to common genital birth defect, says study

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Hairspray and hypospadias may be linked because of chemicals in hairspray known as phthalates.

Women who are exposed to hairspray in the workplace during pregnancy have more than double the risk of having a son with the genital birth defect hypospadias, according to a new study published today in the journal *Environmental Health Perspectives*.

The study is the first to show a significant link between hairspray and hypospadias, one of the most common birth defects of the male genitalia, where the urinary opening is displaced to the underside of the penis. The causes of the condition are poorly understood.

Women have a two to three-fold increased risk of having a son with hypospadias if they are exposed to hairspray in the workplace in their

first trimester of pregnancy, according to the new study, by researchers from Imperial College London, University College Cork and the Centre for Research in Environmental Epidemiology in Barcelona.

The study suggests that hairspray and hypospadias may be linked because of chemicals in hairspray known as phthalates. Previous studies have proposed that phthalates may disrupt the hormonal systems in the body and affect reproductive development.

It is thought that hypospadias affects around 1 in 250 boys in the UK and in the USA, although estimates about prevalence vary. Usually, hypospadias can be successfully treated with corrective surgery after a boy reaches his first birthday, but more severe cases can lead to problems with urinating, sexual relations and fertility.

The new research also reveals that taking folic acid supplements in the first three months of pregnancy is associated with a 36 percent reduced risk of bearing a child with the condition. The UK Department of Health already recommends that folic acid supplements are taken up until the twelfth week of pregnancy in order to prevent neural tube defects such as spina bifida.

Previous smaller studies had suggested that hypospadias might be linked to vegetarianism but the new study did not show any increased risk in women who had a vegetarian diet during pregnancy.

Professor Paul Elliott, the corresponding author of the research from the Department of Epidemiology and Public Health at Imperial College London, said: "Hypospadias is a condition that, if left untreated, can cause problems in later life. Although surgery to correct it is usually successful, any surgery will be traumatic for the child and his parents. It is encouraging that our study showed that taking folic acid supplements in pregnancy may reduce the risk of a child being born with the

condition. Further research is needed to understand better why women exposed to hairspray at work in the first 3 months of pregnancy may have increased risk of giving birth to a boy with hypospadias."

The researchers reached their conclusions after conducting detailed telephone interviews with 471 mothers whose sons had been referred to surgeons for hypospadias and 490 controls, across 120 London Boroughs and Local Authority Districts.

The questionnaires explored a range of aspects of the women's health and lifestyle, including the mother's occupation and possible exposure to different chemical substances, family history of disease, maternal occupation, vegetarianism, smoking and use of folate supplements.

Source: Imperial College London

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