Where we live can affect male reproductive health, finds new study

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New research, led by scientists at the University of Nottingham, suggests that the environment in which men live may affect their reproductive health.

The research, published in *Scientific Reports*, looked at the effects of geographical location on polluting chemicals found in dog testes, some of which are known to affect reproductive health. The unique research focused on dogs because, as a popular pet, they share the same environment as people and are effectively exposed to the same household chemicals as their owners.

The team also looked for signs of abnormalities in the testes. The findings showed that both the chemicals present and the extent of abnormalities in the testes were different depending on where the dog's had been living.

The researchers analyzed the testes of dogs, which had been removed for routine clinical reasons, to see what polluting chemicals were present in the tissue. Samples were taken from across the UK, in the East and West Midlands, and the South East, as well as from Denmark and Finland.

Dr. Rebecca Sumner, from the School of Veterinary Medicine and Science at the University, and lead author of the study, said: "For the first time, we have shown that the profile of chemical pollutants found in dog testes depends on where they are from. We have also shown that the same cohorts of dog testes also show geographic differences in testicular pathology and evidence of an imbalance in cells that are important for sperm production."

Dr. Richard Lea, lead of the team, said: "Although this study suggests that there are fewer pathologies in dog testes from Finland compared to other locations, relating this to the chemicals detected is difficult, particularly as many other pollutants may also be present.

"We believe, that this study is of pivotal importance since our strategy to use the dog as a sentinel species for the human has allowed us to focus directly on the testis, where detected chemicals are likely to influence

male reproductive function." Professor Gary England, Dean of School of Veterinary Medicine & Science, said "This work is significant since collectively, these findings indicate that environmental exposures are determined by location and this may underpin regional differences in male reproductive health."

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