

Table 2.9.1: Intervention study on relationship of endocrine disruptors with cryptorchidism

Region and subjects		Results		
Gill, 1979	U.S. Prospective double-blind randomized study 307 DES-exposed male infants 308 Placebo-exposed male infants	Epididymal cyst Cryptorchidism with hypoplastic testis	Placebo vs. DES 15:64 1:17	P<0.005 P<0.005

Table 2.9.2: Nested case-control studies on relationship of endocrine disruptors with cryptorchidism

Region and subjects		Results
Mol, 2002	Denmark Faroese birth cohort 20 Cases of abnormal testis development (19 cryptorchidism, 1 torsion of testis) 176 Cases without abnormal testis development	Cord blood PCB level Abnormal group vs. normal group 1.99ng/g : 1.85 ng/g No significant difference
Longnecker, 2002	U.S. Case-control study within the Collaborative Perinatal Project 219 Cases, 552 controls	Highest quartile of mother's serum DDE level (the lowest quartile as reference) :OR=1.3 95%CI=0.7-2.4

Table 2.9.3: Case-control studies on relationship of endocrine disruptors with cryptorchidism

Study design and subjects	Results
<p>Cosgrove, 1977</p> <p>U.S. Obstetric records: 600 cases, 389 controls Questionnaire: 225 cases, 111 controls</p>	<p>Obstetric records (DES-exposed vs. control) Low body weight on birth: 3165g vs 3396g Shorter pregnancy period: 36.7 weeks vs. 38.3 weeks Concomitant use of progesterone preparation: 54.2% vs 9.1% Concomitant use of other estrogen preparations: 13.8% vs 0.9%</p> <p>Urological problems: RR=7.2 Penis abnormality: RR=10/0 Other urological abnormalities: RR=1.3 Specifics of urological problems Cryptorchidism: 3/11 vs 1/4 Ureterostenosis: 4/11 vs 0/4</p>
<p>Depue, 1984</p> <p>U.S. Cases: 300 cryptorchidism, 547 inguinal hernia Control: 599 cryptorchidism, 1094 inguinal hernia</p>	<p>Cryptorchidism Mother's estrogen intake :RR=2.8 95%CI=0.9-8.8</p>
<p>BEARD, 1984</p> <p>U.S. Cases: 113 Controls I: 226 (hospital-based) Controls II: 226 (population-based)</p>	<p>Estrogen exposure in 1st trimester I : RR=2.2 95%CI=0.7-7.2 II : RR=1.7 95%CI=0.6-4.9 Progesterone exposure in 1st trimester I : RR=1.0 95%CI=0.3-2.9 II : RR=0.8 95%CI=0.3-2.1</p>

Study design and subjects

Results

Kristensen, 1997

Norway
Register-based case-control study
Farming families: congenital malformation/total birth = 4189/192417
Non-farming families: congenital malformation/total birth = 1418/61351

Cryptorchidism
:OR=0.77 95%CI=0.58-1.03
Pesticide purchase
:OR=1.70 95%CI=1.16-2.50
Pesticide purchase + vegetable growing
:OR=2.32 95%CI=1.34-4.01

Weidner, 1998

Denmark
Register-based case-control study
Cases: 6177 cryptorchidism
Controls: 23273

Farming or gardening mother
:OR=1.38 95%CI=1.10-1.73
Gardening mother
:OR=1.67 95%CI=1.14-2.47

Wang, 2002

China
Hospital-based
99 Cases, 198 controls

Father's occupational exposure to pesticides
:OR=12.79 95%CI=2.90-56.43

Table 2.9.4: Cross-sectional studies on relationship of endocrine disruptors with cryptorchidism

Study design and subjects	Results
<p>Whitehead, 1981</p> <p>U.S. Case study 48 Subjects Urological diseases Semen analysis RIA of α-fetoprotein and β-subunit human chorionic gonadotropin</p>	<p>Urological diseases (48 subjects) Varicocele: 29% Epididymal cyst: 13% Hypoplastic testis: 10% Cryptorchidism: 8%</p> <p>Semen analysis (20 subjects) Normal sperm cells \leq 60% Sperm count 20 x 10⁶/ml Sperm motility \leq 40%</p> <p>RIA Negative in all subjects</p>
<p>S.Hosie, 2000</p> <p>Germany 18 Cases, 30 controls Estimation of organochlorines accumulated in fat</p>	<p>o,p'-DDE :NS p,p'-DDE :NS o,p'-DDD :NS p,p'-DDD :NS o,p'-DDT :NS p,p'-DDT :NS DDD sum :NS PCB28 :NS PCB52 :NS PCB101 :NS PCB138 :NS PCB153 :NS PCB180 :NS PCB sum :NS Palar26 :NS Parlor50 :NS Toxaphens sum :NS HCH- α :NS HCH- β :NS HCH- γ :NS HCH sum :NS cis-Nonachlore :NS trans-Nonachlore :NS cis-Chlordane :NS trans-Chlordane :NS Heptachlore :NS Heptachlore-epoxide :cont/case=2.43/5.2(P=0.009) Pentachlorobenzene :NS Pentachloroanisole :NS Hexachlorobenzene :cont/case=20.08/61.15(P=0.012)</p>