

US EPA ARCHIVE DOCUMENT

TOXICOLOGY BRANCH: DATA REVIEW

Knox - GS0104-088

11/18/83

Chemical: Trichlorfon (TCF)Caswell No.: 385Shaughnessy No.: 057901Study Type: Teratogenicity (oral) in Pigs.

Citation: "Congenital Ataxia and Tremor with Cerebellular Hypoplasia in Piglets Borne by Sows Treated with Neguvon® vet. (Metrifonate, Trichlorfon) during Pregnancy", by Betty Knox, J. Askaa, A. Basse, V. Bitsch, M. Eskildsen, M. Manfrup, H.E. Ottosen, E. Overby, K.B. Pedersen and Folke Rasmussen, NORD VET-MED 30: 538-545 (1978)

Accession No./MRID No.: (NA/NA)Sponsor/Contractor Lab.: (N/A - Published article)Test Material: Neguvon-Vet (% a.i., not stated).

Procedures: Test material was fed to 3 sows and 1 gilt from a SPF Landrace stock herd at a dose of 60 mg/kg twice during gestation (D-55, D-70) in Study I, and to 4 sows from a "conventional" herd at 50 mg/kg, either on D-66 (2 sows), or twice (D-56, D-70 - 2 sows) in Study II; blood samples were analyzed for CF and H1 antibodies as well as IgM, and ChE activity. Following natural birth or C-section, the following determinations were made on offspring: Body, cerebellum and brain weights; weight and length of spinal cord; histopathological examination of piglet CNS and cerebellum.

Results: All 40 liveborns from Study I dams showed ataxia or tremors (+1 "mummified fetus"), as well as ponderal and histological evidence of cerebellar hypoplasia, compared to a complete absence of neurological deficit among 892 live-borns in 97 non-treated SPF sows. Only one Study II sow dosed twice with Neguvon farrowed ataxic young, 12/13 liveborn (+3 stillborn); none of the 32 young born to the other 3 sows were affected. No serological changes were found in SPF sows, suggesting no evidence of acute parvovirus infection in mothers; circulating (rbc, plasma) ChE however, activity was persistently depressed in treated "conventional" dams throughout pregnancy (compared to pre-treatment levels).

Conclusions: Despite the discrepancies in the neurological findings between treated SPF pregnancies (Study I) compared to those from the conventional herd (Study II), the authors were satisfied that acute TCF-treatment (as NEG-VET) caused severe congenital ataxia and tremor at the dosage levels employed (ca. 60 mg/kg), when treatment occurred about mid-gestation (D55-70).

TB Evaluation: This report is judged SUPPLEMENTARY DATA, due to the inadequate procedures, insufficient number of treated animals, and summary reporting.

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