

ANIMAL EXPOSURES TO GD VAPOUR

Rhesus monkeys were exposed to GD vapour, in Trials 7 and 9, to investigate the effectiveness of a proposed treatment for GD poisoning, consisting of a mixture of diazepam, 3.5 mg/kg, and atropine, 0.1 mg/kg, administered intramuscularly.

All the monkeys exposed in the trial were clothed in demin suits and had chronic implanted cerebral electrodes, and EEG control records were obtained before each trial. The procedure for each trial and general results of the vapour exposures are given below.

Trial 7

Four positions were selected downwind of the layout centre; on the edge of the rectangle, close to the vertical sampling array, at a point midway between the rectangle and Circle M, at the vertical sampling array on Circle M, and on Circle N.

At each position, one pair of animals was secured by chain leads to stakes, about 45 minutes before spraying commenced. One animal of each pair was treated with the mixture of diazepam and atropine, administered intramuscularly, about 30 minutes before spraying commenced.

After 10 minutes exposure to vapour, the monkeys were taken to the decontamination area where their suits were removed, following which, the animals were transported to the neurophysiology laboratory where EEG records were obtained and follow-up studies made.

Trial 9

Three monkeys were tethered on the M line close to the vertical sampling array, and a further three midway between the M line and the edge of the rectangle, about 45 minutes before Zero. About 30 minutes before spraying commenced, one animal of each three was pretreated as in Trial 7. After 1 to 2 minutes exposure to the vapour or at the onset of convulsions, one of the untreated monkeys in each group was treated with the same diazepam-atropine mixture, intramuscularly. (The remaining animal remained untreated.)

The monkeys were removed from the layout, after 10 minutes vapour exposure, to the decontamination area where their suits were removed and further treatment was given as required. The animals were later transported to the Neurophysiology Laboratory for EEG recording and follow-up studies.

RESULTS OF ANIMAL EXPOSURES

<u>POSITION</u>	<u>DOSAGE</u> mg min/m ³ Z - Z+10 min	<u>MONKEY NO.</u>	<u>RESULTS</u>
<u>TRIAL 7</u>			
		7 <u>Untreated</u>	Died on the layout.
Octagon 5	s.16(2)(b)	3 <u>Treated</u>	Some convulsions, unresponsive, miotic. Given additional atropine, at trial site, to relieve respiratory depression. Exhibited some EEG abnormalities and weakness the following day. Up and about on second day, miotic, EEG pattern similar to pre-trial control.
Between Octagon 5 and M 14	s.16(2)(b)	1 <u>Untreated</u> 6 <u>Treated</u>	Died on layout. Alert, responsive and miotic; no EEG abnormalities. Appeared normal the following day, but miotic.
M 14	s.16(2)(b)	8 <u>Untreated</u> 2 <u>Treated</u>	Miotic, drowsy; no EEG abnormalities. Normal the following day except for miosis. Miotic, alert; some synchronized sharp waves in EEG pattern. Normal, except for miosis, the following day.
N 14	s.16(2)(b)	4 <u>Untreated</u> 5 <u>Treated</u>	Both animals alert, miotic with no EEG abnormalities. Normal, but miotic, the following day.
<u>TRIAL 9</u>			
		50 <u>Untreated</u>	Died on the layout.
Between Octagon 7 and M 12	s.16(2)(b)	46 <u>Treated at onset of convulsions</u>	Unresponsive with severe respiratory depression, given additional atropine, EEG showed diazepam pattern. Weak and miotic the following day; diazepam pattern still evident. Normal on second day.
		44 <u>Treated Pre-Trial</u>	Unresponsive, dyspnea, slowed heart-rate, diazepam pattern in EEG. Weak, cyanotic on following day but no EEG abnormalities. Lethargic with some weakness on second day, some slow wave activity in EEG.

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Results of Animal Exposures (Cont'd)

ANNEX 1
(Continued)

<u>POSITION</u>	<u>DOSAGE</u> mg min/m ³ Z - Z+10 min	<u>MONKEY NO.</u>	<u>RESULTS</u>
<u>TRIAL 9 (Cont'd)</u>			
		49 <u>Untreated</u>	Unresponsive, severe convulsions, salivation severe respiratory depression. Given i.m. atropine at decontamination station. The animal remained lethargic and weak until it died eight days after exposure. High voltage sharp wave activity persisted on EEG throughout.
M 12	s.16(2)(b)	48 <u>Treated at onset of convulsions</u>	Unresponsive, severe respiratory depression; given additional atropine into heart; EEG showed synchronized slow wave. Weak, alert but tranquil the following day; EEG showed no abnormalities. On the second day, miotic on left side, otherwise normal.
		47 <u>Treated</u> <u>Pre-trial</u>	Alert when brought from the layout; EEG exhibited diazepam pattern. Normal in all respects the following day.