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Duration of Plasma Oxytetracycline Levels in Neonatal Pigs

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Summary

Samples from neonatal pigs were evaluated to determine the persistence of plasma oxytetracycline after injecting LA 200[®]. Significant (minimum of .2 mcg/ml) amounts of oxytetracycline were found in all samples 96 hours after the injection, and oxytetracycline still persisted in many pigs after 168 hours.

Procedure

Pigs were injected with 1 ml of LA 200 at 3, 12, and 21 days of age. Blood samples were collected at 4, 12, 24, 48, and 96 hours after the oxytetracycline injection. The range and number of samples exceeding .2 mcg/ml for the different-age pigs are shown in Table 39.

Table 39. Duration of Plasma Oxytetracycline Levels in Neonatal Pigs

Age at injection	Range (mcg/ml)				
	Number of samples >.2 mcg/number of samples				
	Hours post-injection (PI)				
	4	12	24	96	168
3 days	<u>10.0 - 32.9</u> 9/9	<u>6.6 - 30.2</u> 9/9	<u>5.6 - 23</u> 8/8	<u>.5 - 1.6</u> 9/9	<u>0 - .5</u> 4/7
12 days	<u>7.4 - 10.3</u> 8/8	<u>4.1 - 8.4</u> 8/8	<u>1.7 - 4.8</u> 8/8	<u>.4 - .9</u> 8/8	<u>0 - .4</u> 5/8
21 days	<u>3.0 - 5.2</u> 8/8	<u>2.0 - 5.8</u> 8/8	<u>1.2 - 2.1</u> 6/6	<u>.5 - .9</u> 8/9	<u>0 - .3</u> 2/9

* One sample showed trace at 96 hours, but had a .3 mcg/ml at 168 hours.

Results

Significant plasma levels of oxytetracycline were noted in samples at 96 hours post injection. The one pig having only a trace in the 96-hour test exhibited .3 mcg/ml at 168 hours. All pigs were injected with 1 ml of LA 200, and consequently the 4-, 12-, and 24-hour samples were highest in the 3-day-old pigs and lowest in 21-day-old pigs; however, the difference was not so great at the later bleedings. The effectiveness of oxytetracycline depends on the susceptibility of the infective agent to the antibiotic, and a satisfactory response cannot be anticipated solely because of a continuous plasma level.

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[®]Chas. Pfizer and Co.