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Iron dextran and iron dextran-gentamycin combined, compared as methods of preventing iron-deficiency anemia in neonatal pigs

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Summary

Giving an iron dextran-gentamycin combination to young pigs had no advantages over giving them iron dextran alone, as measured by hemoglobin levels, packed cell volumes, or weight (when 28 days old).

Introduction

That iron dextran injected either intramuscularly or subcutaneously into neonatal pigs prevents their having iron-deficiency anemia is well documented. However, the effectiveness of combining gentamycin and iron dextran to inject in the pigs to prevent iron-deficiency anemia (as well as to help control colibacillosis) has not been evaluated. We attempted to evaluate that effectiveness.

Experimental Procedures

Pigs farrowed from 19 crossbred sows were randomly assigned to one of three treatments at birth: (1) 150 mg. iron dextran; (2) 140 mg. iron dextran and 5 mg. gentamycin; and (3) no supplemental iron (negative controls). Pigs were bled within 24 hours after birth and weekly for 4 weeks thereafter to determine hemoglobin (Hb) and packed cell volume (PCV).

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Results and Discussion

The effects of iron treatment on hemoglobin levels and packed cell volumes are shown in table 32. There were no significant differences in hemoglobin levels or packed cell volumes of pigs that received iron dextran alone and those that received iron dextran-gentamycin combination. Both groups had significantly ($P < .05$) higher hemoglobin and PCV levels than did pigs that received no supplemental iron (negative controls). Pigs that received iron dextran or iron dextran plus gentamycin had similar weight when 28 days old. Both groups were heavier than pigs receiving no supplemental iron. Colibacillosis was not a problem during this trial.

Table 32. Hematology of pigs as effected by iron treatments.

	150 mg. iron dextran		Iron treatments 140 mg. iron dextran + 5 mg. gentamycin		Negative controls (no iron)	
	Hb	PCV	Hb	PCV	Hb	PCV
Birth	9.4	28.7	9.8	28.8	9.3	28.7
1 week	9.8	31.1	9.9	31.1	7.8	24.5
2 weeks	11.2	35.7	11.1	35.6	6.3	21.2
3 weeks	10.6	34.0	10.6	34.5	5.8	20.8
4 weeks	9.6	32.6	10.3	34.9	5.2	20.0

Effect of iron treatments on weight of 28-day-old pigs

28-day weight (lbs.)	150 mg. iron dextran	Iron treatments 140 mg. iron dextran + 5 mg. gentamycin	Negative controls (no iron)
	14.2	14.6	11.5