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EFFECT OF DOPRAM-V* AND CORACID AFTER ROMPUN***
TREATMENT IN CATTLE AND BUFFALO**
(With One Table and 3 Figures)

By

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تأثير عقار دوبرام - ف وعقار كوراسيد
بعد حقن عقار رومبون في الأبقار والجاموس

هارون على يوسف ، ساميه مصطفى سليم ، فتحي محمد مكي

لقد حقن عقار دوبرام - ف في الوريد بجرعة ٦ ملجرام لكل كيلو من وزن الحيوان بعد ٣٠ ، ٦٠ دقيقة من الحقن العضلي لعقار رومبون بجرعة ٢ ملجرام لكل كيلو من وزن الحيوان في بقرات وثلاث جواميس كذلك حقن عقار كوراسيد بجرعة ١٥ ملجرام لكل كيلو من وزن الحيوان لنفس الحيوانات بعد شهر من استخدام عقار دوبرام - ف . بينما أعطى كل من عقار دوبرام - ف وعقار كوراسيد تحسن ملحوظ في ضربات القلب والتنفس بعد الجرعات العالية من عقار رومبون كانت قدرة العقار الأول أعلى من العقار الثاني . هذا وقد كان لابد من حقن أكثر من جرعة من أي من العقارين للحصول على التأثير المنبه الكافي لنهوض الحيوانات وحركتها من الرقود الناتج بعد حقن الجرعات العالية من عقار رومبون .

SUMMARY

Seven animals (4 cattle and 3 buffaloes) were used in this study. Dopram-V was administered I/V (0.6 mg/Kg. B.Wt.) 30 and 60 minutes after I/M injection of Rompun (0.2 mg/Kg. B.Wt.). One month later Coracid was used I/V (15 mg/Kg. B.Wt.) 30 and 60 minutes after Rompun injection.

Although both Dopram-V and Coracid improved the depressed heart rate and respiratory rate after the high doses of Rompun, the former drug appeared to be more efficacious than the later. More than one dose of the analeptics are needed to obtain a good "arousal" effect.

INTRODUCTION

Rompun as a potent sedative, analgesic and muscle relaxant was used in cattle and buffalo in different doses (CLARK & HALL, 1970; FOUAD & SHOKRY, 1973; MOTTELIB & EL-GUINDI, 1975; TANTAWY *et al.*, 1982 and BROWN, 1986). Ruminants are more

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sensitive to Rompun than are other animals. They require only 10% or less of the dose for horses to induce the equivalent state of sedation (HALL, 1971 and KNIGHT, 1980). The drug can cause excessive depression of the central nervous, cardiovascular, respiratory and gastrointestinal systems (BOOTH and McDONALD, 1982 and LUMB and JONES, 1984). Possible side effects include profuse salivation, bradycardia, abortion, polyuria, lateral recumbency and tympany (DENDI and PARADA, 1981 and BROWN, 1986).

Sometimes surgery has to be undertaken in the open air, and it is undesirable for the animals treated with Rompun to be exposed to hot sun or severe cold for a prolonged period. If the animals are too deeply sedated and unable to rise and walk away, tympany and other dangerous problems can develop (DENDI and PARADA, 1981).

Veterinarians have relied sometimes on analeptics to reduce the hazards of the unintentional overdoses of anaesthetics and other CNS depressants. Although analeptics are seldom lifesaving, they eliminate or reduce the extent of the needed supportive measures (KLEMM, 1966 and DENDI & PARADA, 1981). Most analeptic exert an "arousal" effect characterized by partial return of consciousness of the patient (BOOTH and McDONALD, 1982).

The purpose of the present study was to determine the effect of Dopram-V and Coracid after the high doses of Rompun in cattle and buffalo.

MATERIAL and METHODS

The study was conducted on 7 apparently healthy animals (4 cattle and 3 buffaloes), with body weight ranging from 130 to 350 Kg. These animals were female non pregnant ones. Rompun was administered intramuscularly in a dose rate of 0.2mg/Kg. B.Wt. Dopram-V (Doxapram hydrochloride) was injected intravenously in a dose rate of 0.6 mg/Kg B.Wt. (DENDI and PARADA, 1981) 30 and 60 minutes after Rompun administration. One month later Coracid (Nikethamide) in a dose rate of 15 mg/Kg. B.Wt. (HALL, 1971) was injected intravenously 30 and 60 minutes after Rompun administration to the same animals.

Rectal temperature, heart rate and respiratory rate were recorded before, and 15, 45, 60, 75, 90, 105 and 120 minutes after Rompun administration. The depressant effect of Rompun and the analeptic effect as well as the arousal effect of Dopram-V and Coracid were also recorded.

RESULTS

The effect of Dopram-V after Rompun treatment in cattle :

The animals laid down 8 to 12 minutes after Rompun injection. Depression was pronounced within 20 to 25 minutes and the animals took themilk fever position. At 30 minutes after Rompun injection severe depression was detected, therefore, the analeptic (Dopram-V) was administered. The animals stood up within 3 to 6 minutes,

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but one animal returned to lay down again 20 minutes after Dopram-V injection. This animal stood up 3 minutes after the second administration of Dopram-V (60 minutes after Rompun injection).

The body temperature decreased after Rompun injection regardless of Dopram-V administration (Fig. 1). The heart rate and the respiratory rate decreased after Rompun injection and increased after Dopram-V administration, but returned to decrease within 15 minutes after injection of the analeptic (Fig. 2&3). The increase of the heart rate and respiratory rate was more pronounced for 2 to 4 minutes after Dopram-V injection.

The effect of Dopram-V after Rompun treatment in buffalo :

The animals laid down 10 to 15 minutes after Rompun administration. Severe depression was pronounced within 25 to 30 minutes. When Dopram-V was injected 30 minutes after Rompun injection, only one animal stood up within 5 minutes, but the other ones stood up just after the second injection of the drug.

The body temperature fluctuated slightly above the initial values (Fig. 1). The heart rate decreased after Rompun injection, and increased after injection of the analeptic drug, but returned to decrease within 15 minutes (Fig. 2). The respiratory rate increased within 15 minutes after Dopram-V injection, but after that returned to decrease to lower than the initial values (Fig. 3). The pronounced increase in the respiratory rate and heart rate was observed 2 to 3 minutes after injection of the analeptic drug.

The effect of Coracid after Rompun treatment in cattle :

The animals laid down 10 to 12 minutes after Rompun injection. They could not stand up when Coracid was administered 30 minutes after Rompun injection, but they stood up within 2 to 5 minutes after the second injection of the analeptic. Two animals returned to lay down in the sternal recumbency within 20 to 25 minutes after the second administration of the analeptic.

The body temperature decreased after Rompun injection in cattle regardless of the analeptic administration (Fig. 1). The heart rate and respiratory rate decreased after Rompun administration and increased after Coracid injection, then returned to decrease to lower than the initial values (Fig. 2&3).

The effect of Coracid after Rompun treatment in buffalo :

The animals laid down 10 to 12 minutes after Rompun administration. Pronounced depression was observed within 25 minutes. The animals did not stand up when Coracid was injected 30 minutes after Rompun administration, but they could stand up within 2 minutes when the analeptic was administered after 60 minutes.

The body temperature fluctuated slightly above the initial values (Fig. 1). The heart rate and the respiratory rate decreased after Rompun administration, but returned to increase after the injection of Coracid (Fig. 2&3).

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Table (1): Showing the effect of analeptic injection after Rompun treatment, on the mean values of the body temperature, heart rate and respiratory rate in cattle and buffaloes.

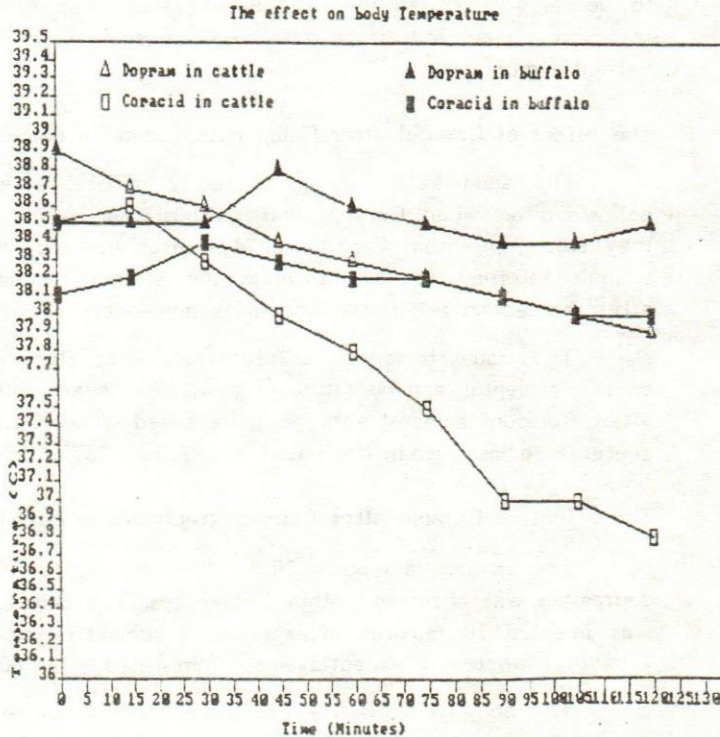
Time (minutes)	Dopram-V in cattle			Dopram-V in buffalo			Coracid in cattle			Coracid in buffalo		
	T.	H.R.	R.R.	T.	H.R.	R.R.	T.	H.R.	R.R.	T.	H.R.	R.R.
0	38.9	60	18	38.5	58	14	38.5	58	17	38.1	46	12
15	38.7	42	16	38.5	43	14	38.6	48	16	38.2	42	10
30	38.6	36	15	38.5	42	14	38.3	50	16	38.4	40	10
45	38.4	55	18	38.8	44	16	38	54	20	38.3	40	12
60	38.3	41	16	38.6	40	13	37.8	48	16	38.2	38	10
75	38.2	46	18	38.5	42	15	37.5	49	18	38.2	41	11
90	38.1	44	16	38.4	38	10	37	48	14	38.1	43	11
105	38	38	14	38.4	38	9	37	42	13	38	40	10
120	37.9	38	14	38.5	37	9	36.8	40	14	38	38	10

T.: Body temperature (Degree centigrade).

H.R.: Heart rate per minute.

R.R.: Respiratory rate per minute.

Figure (1): Showing the effect of Dopram-V and Coracid on body temperature after Rompun treatment in cattle and buffaloes.



The effect on the heart rate

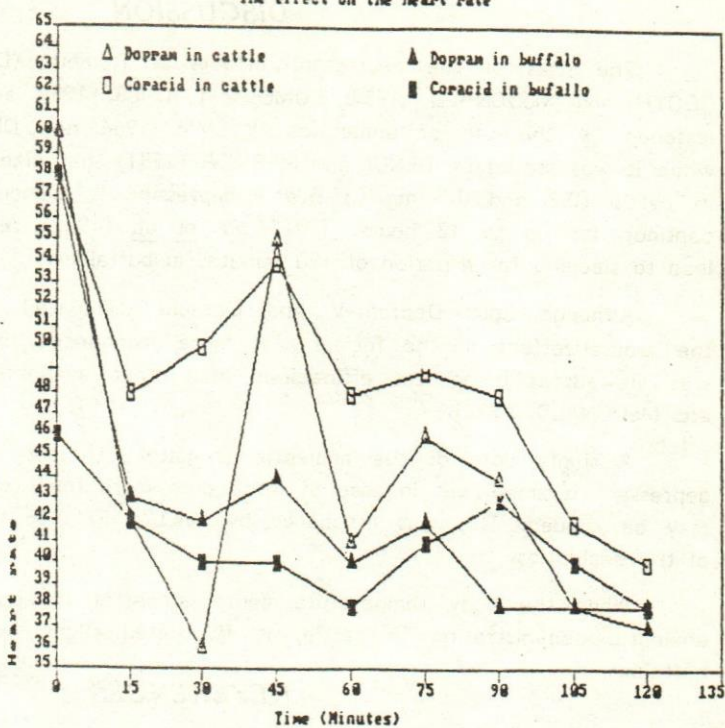


Fig. (2): Showing the effect of Dopram-V and Coracid on the heart rate after Rompun treatment in cattle and buffaloes.

The effect on the respiratory rate

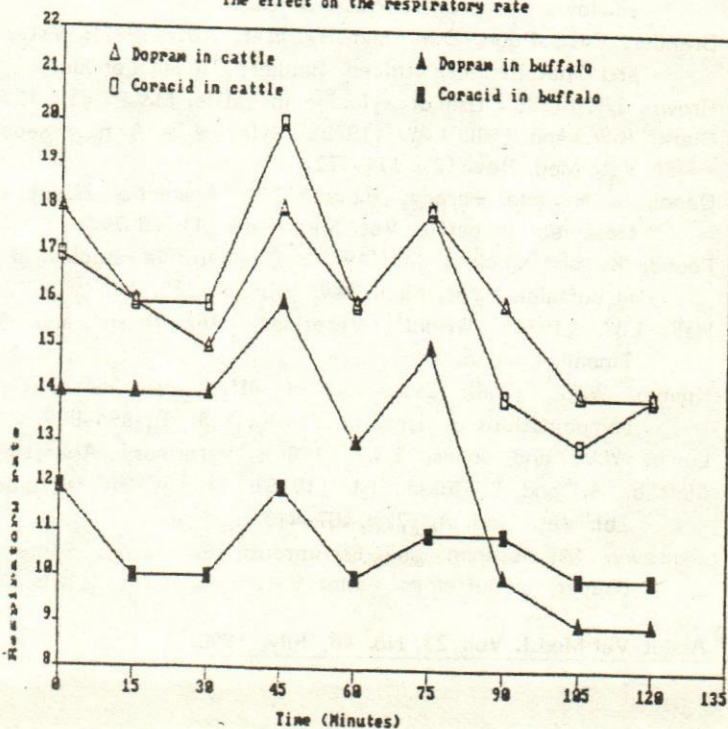


Fig. (3): Showing the effect of Dopram-V and Coracid on the respiratory rate after Rompun treatment in cattle and buffaloes.

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DISCUSSION

The risks of the depressant effects of Rompun (DENDI and PARADA, 1981; BOOTH and McDONALD, 1982; LUMB and JONES, 1984 and BROWN, 1986) may be lessened by the use of analeptics (KLEMM, 1966 and DENDI and PARADA, 1981). while it was stated by DENDI and PARADA (1981) that after the high doses of Rompun in cattle (0.2 and 0.3 mg/Kg B.Wt.) depression is pronounced and somnolence may continue for up to 12 hours, TANTAWY *et al.* (1982) recorded that the drug may lead to sleeping for a period of 190 minutes in buffaloes.

Although both Depram-V and Coracid stimulated the heart and respiration, the arousal effect of the former was more pronounced than the later drug. Coracid was viewed as being less efficacious than other available analeptic agents (BOOTH and McDONALD, 1982).

A single dose of the analeptic is quite sufficient when the dose of the CNS depressant is small, but in case of large dose more than one injection of the analeptic may be needed. This was attributed by HALL (1971) to the short duration of action of the analeptics.

While the body temperature decreased after Rompun treatment regardless the analeptic administration in cattle, it fluctuated slightly above the initial values in buffaloes.

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