A PRELIMINARY NOTE ON THE STUDY OF LACTOGENIC PROPERTIES OF 'LEPTADEN'

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The term galactagogue is applied to a therapeutic agent which has the property of inducing or increasing the secretion of milk but it appears that such agents do not induce increased secretion of milk permanently. Lactation is considered to be dependent largely on the influence of hormones.

In view of the lactogenic property of 'Leptaden' described by Moulvi (1963) with some favourable results amongst buffaloes, it was decided to try this Ayurvedic preparation on cows at the Cattle Breeding and Dairy Farm, Junagadh. The object of this note is mainly to record the preliminary observations on the lactogenic properties of 'Leptaden' in Gir cows.

Deshpande and Asher (1962) have reported that 'Leptaden' stimulates lactation amongst women where easy flow of secretion was not existing. They have further recorded that lactation was maintained even after the cessation of administration of 'Leptaden'. Trivedi (1956) has observed that lactation is induced twelve hours after the administration of the drug and that it continues after treatment with 'Leptaden'.

Moulvi (1963) has recorded his observations on the administration and results of 'Leptaden' in buffaloes and he considers that cases treated with 'Leptaden' yielded very favourable results and the increase in the milk yield was, according to him excellent.

Moulvi (loc. cit.) administered five tablets of 'Leptaden' twice daily amongst cases where the animals were considered deficient in lactation after calving.

Materials and Methods

Six Gir cows of the Cattle Breeding and Dairy Farm Junagadh, named Labhu (No. 61), Gali (No. 185), Sudha (No. 12), Dasi (No. 6), Saraswati (P 13) and Bindu (P 34) all of which had calved in the same month, and which were giving less than four litres of milk per day in the initial phases of lactation, were selected for the experiment.

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Another batch of six cows named Chital (No. 28), Mala (No. 30), Guha (No. 57), Gopi (No. 186), Gunvanti (No. 177), and Kumud (No. 177d) all calved in the same month were also selected and kept as controls. Feeding and management were kept identical in both the groups and the feeding schedule of the farm was followed which was as under:

(a) Concentrates - 3.5 Kilos of mixture containing
Cotton seed - 20%
Groundnut cake - 20%
Gold Mohur - 20%
Wheat bran - 40%

(b) Roughages:
Green - 20 Lbs.
Hay - 10 Lbs.

On every 10th and 25th of the month full milking (i. e. without allowing the calf to suckle) was carried out whereas on other days the calf was allowed to suckle to some extent.

"Leptaden" is an Ayurvedic preparation in tablet form containing as reported by 'Alarsin', Bombay:

Leptadenia reticulata - 134 mg.
Breynia Patens - 134 mg.
Excipient - Q. S.

Five tablets of 'Leptaden' were administered to six cows under experiment in the morning with the concentrates. In the evening these animals were given five tablets of the drug with a handful of concentrates. The controls were given only feeds mentioned above. The drug was administered for 30 days in the manner described above. The milk yield of all the animals was recorded twice daily when the cows were milked as per routine of the farm.

During the experiment, cow Sudha (No. 12) lost her calf and cow Gali (No. 185) was taken ill.

Results and Discussion

TABLE 1
Milk yield of the Experimental Animals

Name and Br. No. of cow	Daily milk yeild on weekly average in litres								
	1st week	2nd week	3rd week	4th week	5th week	6th week	7th week	8th week	9th week
Sudha 12	3.9	3.8	3.8	3.4	3.5	3.3	3.5	3.2	3.2
Dasi 6	4.3	4.3	4.1	4.3	4.4	4.4	4.5	4.5	4.5
Sarawati P-13	1.4	1.4	1.0	1.4	1.3	1.1	1.0	1.2	1.0
Bindu P-34	2.5	1.8	1.9	2.0	2.0	2.0	2.0	2.0	2.0
Labhu 61	2.4	1.4	1.4	2.6	3.2	4.2	3.7	3.6	4.5
Gali 185	2.8	3.0	0.5	–	–	–	2.9	3.4	2.5

('Leptaden' was administered during 3rd, 4th, 5th, 6thand two days of seventh week).

Table 1 shows the milk yield of the experimental animals, that were administered the drug. The average daily milk yield on weekly basis has been shown in the table. The milk yield two weeks before and after the administration of the drug is also recorded to give comparative idea.

Table 2 shows the milk yield of the control group of animals on similar lines.

TABLE 2
Milk yield of control group animals.

Name and Br. No. of cow	Daily milk yeild on weekly average in litres								
	1st week	2nd week	3rd week	4th week	5th week	6th week	7th week	8th week	9th week
Chital 28	4	4.1	4.2	4.8	5.1	4.9	5	5.1	4.9
Mala 30	4.4	4.7	4	4	4.5	5.2	5.5	4.9	5.4
Guha 57	3.4	3.3	3.4	3.8	3.9	2.3	2.6	2.6	3.0
Gunvanti 177	3.9	4.5	4.3	4.4	4.3	4.7	4.3	4.2	4.6
Kumud 177d	4.1	4.2	3.3	4.0	4.6	5.3	5.3	5.3	5.7
Gopi 186	3.0	3.1	2.9	2.9	3.2	3.3	3.5	3.6	3.4

It may be observed from Table 1 that:

(1) Cow Labhu 61 showed an increase in milk yield from 1.4 litres per day to 4.2 to 4.5 litres.

(2) Cow Gali 185, went dry during 4th, 5th, 6th week due to sickness, but she showed improvement and yielded milk to the tune of 3.0 litres per day.

(3) Cow Sudha 12 allowed to be milked daily and she maintained the lactation even after the loss of her calf.

From the above, the drug appears to have some favourable effect in individual cases. However, on statistical analysis of the data, significant increase in milk per day is not indicated. It is therefore felt that before any conclusions could be arrived at an intensive study of the drug on a large number of cows with an equal number of controls would be necessary to assess the lactogenic value of the drug and its proper dosage.

Summary

The Ayurvedic preparation 'Leptaden' was used in six Gir cows which calved in the same month and whose yield was poor.

Of the six experimental cows, two cows showed an increase in milk yield and one cow maintained its lactation after losing the calf. However, on analysing the data in detail no significant increase was noted.

Further study on the drug, the dosage and the period of administration is suggested.

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