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Lactogenic property of LEPTADEN in conditioned Hypogalactia

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The ancient Indian civilization used many agents to increase milk yield. Jeevanti the active ingredient of 'Leptaden' was used by ancient Indians to stimulate milk secretion. It has been described in Ayurvedic works as stimulator of genito-mammary system.

Trivedi ('56), Malati and Manju ('62) reported the beneficial use of the drug 'Leptaden' to stimulate Lactation in human patients. They used the drug in maternity hospitals. Mangeshikar ('57) reported the use of the drug in Habitual Abortion of human patients. Moulvi ('63), Vaishnav & Buch ('65), have reported the beneficial effect of the drug as galactogogue in dairy cattle. Anjaria & Indra Gupta ('67) have made scientific study of the efficacy of the drug in sheep, goat, cows and buffaloes as a galactopoietic and galactogenic agent.

Use of Leptaden in a variety of clinical cases in she buffaloes is of great economic value, since their existence in urban dairies depends on their 'performance at pail'. Leptaden was tried on variety of clinical cases in she buffaloes which form the mainstay of urban dairy industry in India today.

Material: Dairy buffaloes mostly of 'Murrah' breed maintained by 2 milk producers were used as material. The two dairies chosen were of M/s. Kantharia at Kurla, and M/s. New Popular Dairy, Jogeshwari. Animals which had (1) recovered from an attack of Mucosal disease (2) Premature calving or Abortions in advanced pregnancy; (3) animals having pyometra (4) animals returned from salvage farms (5) animals recovered from an attack of Foot and Mouth Disease were subjected to treatment.

Mucosal Disease: It was prevalent in Bombay in '65-66. In Kantharias' Dairy 10 animals had recovered from an acute infection of this disease. These animals had suffered tissue dehdyration. Generally return to lactation after such a disease is very rare in buffaloes in Bombay. These animals were given Leptaden when they showed desire to take concentrates.

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Table I

Buff. No.	No. of Tablets given per day	Duration of treatment in days	Effect on lactation
1	10	10	No effect
2	10	12	No effect
3	15	12	Returned to 4 litres per day
4	20	9	Returned to 5 litres per day
5	20	10	Returned to 4 litres per day
6	20	12	Returned to 6 litres per day
7	20	12	Returned to 5.5 litres per day
8	20	12	Returned to 3.5 litres per day
9	20	10	Returned to 1 litres per day
10	20	10	No effect

Each tablet of Leptaden contains (1) Leptadenia reticulata (Jeevanti) 134 mgms, (2) Breynia patens (Kamboji) 134 mgms.

Abortion in late pregnancy

Two buffaloes which had aborted in late pregnancy and had not fully developed udder (flaccid udder) and were not 'letting down' were treated with the drug after treating the genitalia with antibiotics. There was gradual induction of 'letting down' and after 15 days of treatment, have shown increase in milk yield as shown in Table II.

Table II

Case no	History	Letting down		Treatment	Effect on Lactaion seen after 7 days of cessation of treatment
		Before treatmet	After 7 days treatment		
1	Aborted in 9th month offensive discharge from uterus	Absent	Commenced after 7 days	15 tablets once a day in feed for 15 days	Came to 5 litres of milk per day
2	Aborted in 9th month offensive discharge from uterus	Partially present	Good letdown after week	10 tablets B.I.D in feed for 15 days	6 litres of milk per day

Pyometra cases

Weak animals with pyometra have as a rule low milk yield. After injecting the genitalia with antibiotic, treatment with Leptaden was commenced and the results are indicated in Table III.

Table III

Case no.	Dosage	Length of treatment	Milk yield	
			Before treatmemt	After treatmemt
1	10 tabs. B.I.D. in food	7 days	3 litres	6 litres
2	~do~	10 days	2 litres	6.5 litres

Salvage Return

Generally dairy cattle owners in Bombay, either sell or send their animals out of Bombay when they are uneconomical producers. Most of the animals sent out of Bombay spend their 'dry period' in Gujarat districts where they are looked after by individual farmers. The feeding conditions of animals depend on the 'harvest patterns' which in turn depend upon elements beyond the control of human beings like rainfall etc. Mostly feeding is below optimum level. These animals are returned to Bombay when they are about to calve so that they can be 'steamed up' by the owner or are returned just after calving. Such animals are known as 'salvage returns' as opposed to new purchases.

Two identical groups of 4 buffaloes each were made of such 'salvage returns' on the Popular Dairy. 20 tablets per day were given for 5 days for the treated' group. Treatment was commenced on 5-4-68 and was discontinued on 9-4-68. Milk yield immediately after cessation of treatment did not show marked difference. Measurements were taken on 18-5-68 and results are in Table IV.

Table IV

	Treated	**Untreated**
Animals	4	4
Yeild before treatment	40 litres per day	40.200 litres
After treatment	40.500 litres per day	40.250 litres
6 weeks after treatment	43.590 litres per day	41.500 litres
Increase in %	8%	3%

Foot & Mouth Disease

Two cases of high milk yielding newly purchased buffaloes had stabilised a low level of milking after an attack of Foot & Mouth Disease. They were treated with 20 tablets of Leptaden per day for 5 days and the results are in Table V.

Table V

	Before the onset of disease litres per day	Stabilised after the attack of disease litres per day	Fortnight after the cessation of treatment litres per day
1	12	9	10.5
2	12	8.5	10.73

Discussion

Use of Leptaden in five clinical types of animals was seen to be mostly effective as galactagogue and galactopoietic agent in conditions in which it was used.

In the case of Mucosal disease recovered animals, though the animals returned to lactation the yield is not very high. Out of the 10 treated animals 3 did not return to lactation where as 6 animals: which came back in milk could produce sufficient to maintain them in the herd. 1 animal though came into milk had to be removed on account of uneconomical milk production. Saving 6 animals out of 10 on the 'less profit no loss basis' for future breeding and production is in itself reducing the burden on the dairy farmers.

The work of Sharma ('68) has shown that Leptaden has Oxytocic property of 2.54±.72 mm per gram tablet powder. He has also stated that it is not Oxytocin itself. Oxytocin itself would only induce letting down' and help in clearing the uterus of pyometra. Abortion in late pregnancy cases and other clinical cases discussed show that Leptaden has both lactogenic and lactopoietic property. Turner has stated that crude anterior pituitary extracts are lactogenic and this lead to the purification and isolation of Prolactin and thus added that Purified Prolactin alone is not effective in inducing lactation. Prolactin & adrenal cortical hormone or Prolactin plus. A.C.T.H. has been found to be inducing lactation in hypophysectomised rats and guinea pigs. The Ayurvedic books have described the action of Jeevanti as stimulator of genito mammary system. There is possibility that through this stimulus, reflex stimulation of endocrines takes place, and there is better hormonal balance inducing better plane of nutrition and milk production.

Summary

The after effect of pathological conditions in dairy animals, is severe drop in milk production and many useful animals have to face slaughter in commercial herds.

In majority of cases cited in the article Leptaden has proved effective in inducing lactation & increasing the utility of the animals.

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References

18th Indian Vet. Conference, Hyderabad 1968
Anjaria J. V. & Indra Gupta- Indian Vety. Journal Vol. 44 November '67
Malati Deshpande & M. Asher- Antiseptic 59.945 (Nov. 62)
Mangeshikar S. N.-Ibid 55; 484 (57)
Maynard L & Loosli- Animal Nutrition (IV Edition)
Moulvi M. V.- Ind. Vety. Journal 40: 657 ('63)
Sharma S. C.- Paper at XVIII Ind. Vety. Conference '68
Turner C. D.- General Endocrinology 4th Edition (W. B. Saunders)