Treatment of Anaemia in Cow Calves by Feritas Bolus

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Anemia in cattle may be caused by several factors such as protozoan infections, bacillary toxins, Leptospirosis, toxic feeds such as Brassia sp, rape, kale, onions, tomatoes, turpins, cabbages, poisoning by mercuric salts, pimelia, phenothiazine, copper, and by prolonged oxytetracycline treatment. Nutritional anemia in cattle can occur due to deficiency of cobalt and iron and potassium (Radostits et al. 2000) or intestinal parasitism (Winter and Clarkson, 1992). Anemia due to depression of bone marrow has also been reported by feeding of trichloroethylene extracted soybean meal, arsenic, furazolidone and phenylebutazone (Finnie, 1992). If pregnant cow is deficient in stored iron it may produce anaemic calves.

Materials and Methods
The experiment was aimed at knowing the efficiency of Feritas bolus which contains Iron 1500 mg, Vitamin B₁₂ 75 mcg and Folic acid 7500 mcg per bolus (Brand of Intas Pharmaceuticals, Ahmedabad).

In all 20 cow calves of either sex within 1 to 2 years of age rendered at Panjarapole were screen out for faecal sample examination and were found positive for one or more helminths infestation (Strongyloides, Ascarides, Amphistomes, Trichuris and mixed infestations). All the calves were dewormed with Bol. Fentas (Intas Pharmaceuticals Limited) @ 7mg/kg body weight. Then ten cow calves were kept in control group (A) and ten in the treatment group (B). The average body weight of experimental calves ("O" day) was 56.08 ± 2.70 kg and that of control group was 52.32 ± 1.98 kg. The calves were kept in sheds and fed green chaffed sorghum along with 0.5 kg of calf starter per calf (Godrej made). Water was supplied ad lib through automatic water bowls. In addition 10 gms of soybean chunks were fed per calf as protein supplement. Regular vitamin supplements of A, D₃, C and B complex were added to calf starter. Feritas bolus was given orally (One bolus twice daily) for 7 days in treatment group B. The haemoglobin was measured on 0, 7th, 15th and 21st day and the body weights were recorded on 0, 20th and 45th day.

Results
The results show that in the treatment group the average haemoglobin on day 21 was 11.74 ± 0.28 gm %. All the treated calves except one had normal haemoglobin average 9.04 ± 0.21 gm % as compared to control group which had haemoglobin with average of 9.14 ± 0.27 gm % which was higher than the treated group but during 21 days involving Feritas bolus (two) treated group showed average haemoglobin of 11.74 ± 0.28 gm % as compared to 10.12 ± 0.28 gm % in the control group. The total gain of haemoglobin between 0 day to 21 days on an average was 2.7 gm % in the treated group as compared to just 0.98 gm % in the untreated group which is significantly (3 times) higher. The haemoglobin level in the treated group was on the higher side on normal haemoglobin range in cows of 8 to 14 gm/dl.

Body weight gain: The calves of treated group gained much higher body weight of 57.42 ± 2.81 kg on 20th and 69.26 ± 3.16 kg on 45th day. The difference in the body weight gain was more than 10 kg higher than the control group after 25 days of treatment.
Table 1: Showing Mean Body Weights (kg) in Control and Treatment Groups

<table>
<thead>
<tr>
<th>Days</th>
<th>Groups</th>
<th>Pooled Mean</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
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<tr>
<td>0&lt;sup&gt;th&lt;/sup&gt;</td>
<td>52.32&lt;sup&gt;As&lt;/sup&gt; ± 1.98</td>
<td>56.08&lt;sup&gt;As&lt;/sup&gt; ± 2.70</td>
</tr>
<tr>
<td>20&lt;sup&gt;th&lt;/sup&gt;</td>
<td>55.36&lt;sup&gt;Bb&lt;/sup&gt; ± 1.75</td>
<td>57.42&lt;sup&gt;As&lt;/sup&gt; ± 2.81</td>
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<tr>
<td>45&lt;sup&gt;th&lt;/sup&gt;</td>
<td>57.76&lt;sup&gt;Ab&lt;/sup&gt; ± 1.90</td>
<td>69.26&lt;sup&gt;Bb&lt;/sup&gt; ± 3.16</td>
</tr>
<tr>
<td>Pooled Mean</td>
<td>55.14&lt;sup&gt;A&lt;/sup&gt; ± 1.57</td>
<td>60.92&lt;sup&gt;b&lt;/sup&gt; ± 4.18</td>
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(\(P < 0.01\))

Common capital alphabets within the respective column and small alphabets within the respective row indicates the non-significant differences.

Discussion

According to Brar et al. (2002) the normal range of haemoglobin in cow is 8 to 14 gm/dl. In the present study the average haemoglobin in the control group was 9.14 ± 0.27 gm/dl on 0 day which was higher than the average haemoglobin in the treated group (9.04 ± 0.21). Inspite of this the treated group surpassed the haemoglobin of control calves by more than 2.7 gm/dl just in a period of 3 weeks which shows highly beneficial and reliable effect of Feritas bolus in cases of anemia in cattle.

These calves which were chosen for the experiment were almost invariably on the verge of anemia shown by earlier tests conducted on 0 day.

The body weight gain was more than 10 kg more in the treated group as compared to control group after 25 days of experiment. This appears to be due to better health, better feed consumption and feed conversion by the Feritas treated group.

According to Walchman et al. (1998), the borderline of iron deficiency anemia in 16 to 20 weeks old calves is 9 gm/dl. All the ten experimental cow calves and the 10 control calves were on the borderline of anaemia. The treated group was almost on the borderline 9.04 gm/dl at the onset of the experiment. Apparently healthy cows do produce anemic calves to the extent of 15.8 % (Tennant et al. 1975). This shows that anemia in cow calves is problem probably unnoticed under Indian field conditions.

There is wrong impression in some of us that milk takes care of all the nutrients for calf including iron but milk is a poor source of iron and iron supplements are essential at birth and for their growth, hematopoisis and resistance to infections (Atyabi et al., 2006).

Body weight growth is also dependant on dietary copper, iron and molybdenum (Gengelbach, et al. 2000). In the present study good growth as compared to control can be attributed to adequate iron through Feritas bolus.

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References


Chaudhary and others


