

Case Study

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## Efficacy of Ferrocom Syrup in Anaemia in Dogs

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### ABSTRACT

Twelve clinical surgical pre and post-surgical anaemic cases of dogs having surgical necessity, surgical cases having anaemia and post-surgical cases showing anaemia after surgery were included in the study. The treatment of clinical surgical cases of dogs with Syrup Ferrocom 5 ml morning and evening for 20 days was performed. Clinical signs of different clinical surgical cases viz. Pale mucous membranes, exercise intolerance, loss of appetite were subsided 10 days after treatment with Syp. Ferrocom. The haematological and biochemical parameters viz. Haemoglobin, Ferritin before and 20 days after treatment with Syrup FerroCom was tested and studied which showed significant increase in the Haemoglobin, Ferritin valued 20 days after treatment with Syp.Ferrocom. Treatment of anaemic cases with Syp. Ferrocom showed effective recovery in cases of anaemia in dogs and palatability on the basis of acceptability by the dogs was excellent.

#### Keywords

Ferrocom Syrup,  
Anaemia, Dogs,  
Haemoglobin

#### Article Info

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### Introduction

Anaemia is most common problem in dogs. For treatment of anaemia FerroCom syrup for treatment of anaemia is used in dogs. Ferrocom contains iron in organic form and Shilijit which is most effective to overcome anaemia in dogs. C.Velmurganet.al.2010 reported Shilijit as a dietary supplement for iron deficiency in experimental animals.

### Materials and Methods

Twelve clinical surgical cases of dogs presented to Department of Surgery and

Radiology, TVCC and The Bai Sakarbai Dinshaw Petit Hospital affiliated to Mumbai Veterinary College Parel, Mumbai were selected for the present study. Pre and post-surgical anaemic cases of dogs having surgical necessity, surgical cases having anaemia and post-surgical cases showing anaemia after surgery were included in the study. Clinical signs of different clinical surgical cases viz. pale mucous membranes, exercise intolerance, loss of appetite before and 20 days after treatment with Syrup Ferrocom were studied. The treatment of clinical surgical cases of dogs with Syrup

Ferrocom 5 ml morning and evening for 20 days was performed. Recovery on the basis of clinical signs and Haematological & Biochemical parameters viz. Haemoglobin, Ferritin Before and 20 days after treatment with Syrup FerroCom was tested and studied. Palatability on the basis of acceptability by the dogs was studied.

[Ferrocom Syrup –Indian Herbs Specialities Pvt.Ltd. Saharanpur].

### **Results and Discussion**

Ferrocom syrup is used for maintaining requirements of iron, avoid recurrence of anaemia, optimum growth of pups and dogs. Also it is used to enhance requirements of iron, maintain optimum haemoglobin during gestation, fast recovery from iron deficiency and general weakness in dogs (Velamurgan *et al.*, 2010).

In the present study twelve clinical surgical cases of dogs showing pre and post-surgical anaemia and affected with different disease conditions including tick infestation and various other surgical conditions. In all the cases FerroCom Syrup was given 5 ml orally twice daily (morning and evening) for a period of 20 days.

The cases included in the present study are given in table 1. The clinical signs observed during the present study were presented in Table 2.

#### **Clinical signs**

The details of clinical signs observed before and after treatment with Ferrocom were as follows

#### **Pale mucous membranes**

In the present project out of 12 clinical surgical cases, 11(91.66%) dogs the pale

mucous membranes were observed before treatment whereas in one (8.33%) dog the mucous membranes were mildly pale. After 10 days of treatment with Ferrocom out of 11(91.66%) dogs, in 7(58.33%) dogs the mucous membranes became normal i.e. pink whereas in 5 (44.16%) dogs they were mildly pale. Twenty days after treatment of the dogs with Syp. Ferrocom in 12 (100%) cases the mucous membranes became normal i.e. pink. This is indicative of clinical improvement of cases after treatment with Syp. Ferrocom in anaemic dogs. Ferrocom contains iron in organic form and shilajit which helps to overcome anaemia. C. Velamurgan *et al.*, (2010) reported that shilajit can be used for management of iron deficiency in experimental animals.

#### **Exercise intolerance**

In the present project under study out of 12 (100%) cases, 9 (75%) cases were having exercise intolerance before treatment with Ferrocom. 5 (41%) cases were having exercise intolerance after 10 days of treatment with Ferrocom. In 8 (66.00%) cases the signs of exercise intolerance were disappeared and in only 1 (8.33%) case had exercise intolerance on 20<sup>th</sup> day of Ferrocom treatment which indicates that Syp. Ferrocom effectively helps to reduce exercise intolerance after 20 days of oral treatment.

This might be due to increased haemoglobin levels after treatment which contains of Syp.Ferrocom. Acharya *et al.*, (1988) reported the various indications of shilajit in treatment of anaemia, cardio protective and anti-asthmatic.

#### **Loss of appetite**

Loss of appetite was present in 9 (75%) cases of dogs before treatment with Ferrocom. In 7 (58.33%) cases the sign of loss of appetite disappeared and only 2 (16%) cases showed

persistent loss of appetite even after 10 days of treatment however loss of appetite was not observed in any case after 20 days of treatment. In the present study all the dogs regained the normal appetite after 20 days of treatment with Ferrocom syrup administered orally. Normal regain of appetite due to Syp. Ferrocom treatment indicates its good effect in anorexic cases. Acharya *et al.*, (1988) reported the shilajit as haepato-protective. Ghosal *et al.*, (1988) noted that shilajit is a product of four minerals gold, copper, silver and iron which are acting as general tonic and maintains the health of liver.

### **Other signs**

In the present study the other clinical signs like dullness, unable to walk, salivation, weakness, icteric mucous membranes were observed before treatment with FerroCom which completely disappeared after oral treatment with Syrup FerroCom for 20 days. This is indicative of good effect of Syp. Ferrocom for subsiding other clinical signs like dullness, unable to walk, salivation, weakness, icteric mucous membranes. Siilajit and organic iron present in the Syrup Ferrocom might have reduced the clinical signs of anaemia. The constituents of Syrup Ferrocom may have helped in subsiding signs of anaemia in dogs. Ghosal *et al.*, (1988) described that shilajit is a product of four minerals gold, copper, silver and iron. Andrews *et al.*, (2000) suggested oral iron supplement as safest for administration

### **Hemato-biochemical studies**

The following hemato-biochemical parameters were studied before and after Syp.FerroCom treatment

#### **Haemoglobin**

The case wise haemoglobin of the dogs was evaluated and the details are given below

The mean Haemoglobin values before treatment with Syp. FerroCom were  $7.40 \pm 0.48$  gm% whereas the mean Haemoglobin values 20 days after treatment with Syp. FerroCom were  $12.53 \pm 0.42$  gm%. There was significant increase in haemoglobin values after treatment with Syp. Ferrocom for 20 days. This is indicative of excellent effect of Syp. Ferrocom for increasing the blood haemoglobin in anaemic cases. Shilajit and organic iron may have major role in increasing the haemoglobin Velmurgan *et al.*, (2010) suggested that shilajit significantly increases the Haemoglobin in experimental animals. Whereas Andrews *et al.*, (2000), Geiger *et al.*, (2005), Cook *et al.*, (2005), Plumb *et al.*, (2008) and Harvey *et al.*, (1982) reported that Ferrous sulphate and ferrous gluconate are recommended in oral iron due to high bioavailability

#### **Ferritin**

The case wise Ferritin values of the dogs were evaluated and the details are given below

The mean Ferritin values before treatment was  $227.4808 \pm 12.02$  whereas it was  $454.65 \pm 19.25$  after 20 days of oral treatment with FerroCom orally. The Ferritin values were significantly increased after 20 days of treatment with FerroCom orally in Dogs. Ferritin is a intracellular protein which acts as buffer against iron deficiency and more iron in serum. Small amount of ferritin secreted in serum acts as carrier of iron. Amount of ferritin can be diagnosed by ferritin values in the serum. In the present study the significantly increased ferritin values indicates that Syp. Ferrocom administered orally is very effective in increasing the serum iron level. Shilajit and organic iron present in the Syrup Ferrocom might have boosted the ferrition values in the blood. Jennifer *et al.*, (2011) noticed that iron deficiency can be diagnosed on the basis of decreased levels of

ferritin concentration, MCV and reticulocyte index.

**Recovery**

The recovery in case of dogs treated with Syrup FerroCom administered orally was excellent after 20 days treatment with Syrup FerroCom. Pink mucous membranes, increased appetite, decreased exercise intolerance, increased activity of the dogs were the signs of recovery observed during

the present study. All the 12 dogs recovered normally after 20 days of FerroCom oral treatment. This is indicating that Syrup Ferrocom is very effective in recovery of cases of anaemia, anorexia and weakness. Organic iron and shilajit present in Syp.Ferrocom may have subsided the symptoms viz. anaemia, anorexia and weakness. Acharya *et al.*, (1988) and Ghosal *et al.*, 1988) reported the haepato-protective, cardio-protective, tonic and anti-anaemic effect of shilajit.

**Table.3** The cases of dogs treated with FerroCom

Case No.	Breed	Age	Sex	Body Weight	Disease
1	Labrador	10 months	Female	20 kgs	Pyometra
2	ND	8 years	Male	12 kgs	Epilepsy, Wound
3	Labrador	17years	Male	27 kgs	Swelling on testicles
4	ND	2 months	Male	5kgs	Dislocation of left hip joint
5	ND	6 years	Male	14 kgs	Anorexia and salivation, Castration
6	Labrador	15 years	Male	25kgs	<i>Babesia canis</i> Ear haematoma
7	ND	4 years	Female	10.7 kgs	Tick infestation and wounds on the body
8	ND	8.5 years	Male	20 kgs	Weakness and lacerated wound
9	ND	10 years	Male	15 kgs	Tick infestation and bone fracture
10	ND	7 years	Female	10 kgs	Tick infestation and extensive maggot wound
11	Labrador	2 years	Male	32 kgs	Tick infestation, <i>Ehrlichia canis</i> with amputation of limb
12	Labrador	5 months	Male	12 kgs	Jaundice and foreign body in stomach

**Table.4** Showing clinical signs observed before and after treatment with Ferrocom

Case No.	Pale Mucous membranes		Exercise Intolerance		Loss of appetite	
	Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment
1	Present	Absent	Present	Present	Present	Absent
2	Absent	Absent	Absent	Absent	Present	Absent
3	Present	Absent	Present	Absent	Present	Absent
4	Present	Absent	Present	Absent	Present	Absent
5	Present	Absent	Present	Absent	Present	Absent
6	Present	Absent	Present	Absent	Absent	Absent
7	Present	Absent	Absent	Absent	Absent	Absent
8	Present	Absent	Present	Absent	Present	Absent
9	Present	Absent	Present	Absent	Present	Absent
10	Present	Absent	Absent	Absent	Absent	Absent
11	Present	Absent	Present	Absent	Present	Absent
12	Present	Absent	Present	Absent	Present	Absent

**Table.5** The case wise haemoglobin of the dogs

Case no.	Before Treatment	Twenty days After Treatment
1	8.3	12.4
2	7.7	12.2
3	4.9	12.8
4	7.8	12.7
5	7.8	12.6
6	7.7	8.6
7	4.4	13.7
8	9.4	13.2
9	8.4	13.7
10	9.5	12.9
11	5.1	13.4
12	7.9	12.2
<b>MEANSE±</b>	<b>7.408±0.48</b>	<b>12.53±0.48</b>

**Table.6** The case wise ferritin values of the dogs

Case No.	Before treatment	Twenty days After Treatment
1	254.36	496.24
2	196.36	450.67
3	214.34	502.57
4	305.48	481.05
5	200.48	476.24
6	208.42	457.20
7	214.59	615.48
8	247.59	446.27
9	151.52	370.24
10	196.24	401.35
11	257.95	423.54
12	278.57	335
<b>MEAN SE±</b>	<b>227.4808±12.02</b>	<b>454.65±19.25</b>

### Palatability

The palatability of Syp. FerroCom was assessed in all the cases under study depending upon the acceptability by the dogs which were found excellent in all the dogs. In the present study Syrup Ferrocom was found safest throughout the duration of treatment, colour of faeces was normal and undue side effects were not observed in the present study. Jennifer et.al.(2000) emphasized that oral iron supplementation like ferrous sulphate can cause black discoloration of faeces, gastrointestinal upset and no tolerance of oral iron preparations. Whereas Andrews *et al.*, (1999), Nemeth *et al.*, (2006) and Cook *et al.*, (2005) in their reports noted parenteral administration of Iron dextran and ferrous sulphate may cause anaphylactic reactions, nausea, vomiting, fever, malaise, myalgia and urticaria.

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