

# Management of Gastroenteritis in Pups: A Comparative Clinical Study

Dr. J.P. Varshney

**Abstract:** Gastroenteritis is a common clinical entity in pups. In poorly managed, unvaccinated pups it is a common clinical manifestation of canine parvo or distemper virus infection. The present study was conducted to assess the efficacy of *Arsenicum album* 30C as a complementary and alternative medicine in the management of viral gastroenteritis in pups.

Twenty pups, aged two to four months, brought to Referral Veterinary Polyclinic of the Institute with clinical manifestations of vomiting just after eating or drinking, anorexia, loose, watery feces mixed with mucus and/or blood, dehydration, cold extremities, almost normal/slightly subnormal rectal temperature (98.8 to 101 degrees F), dullness, weakness, prostration, and no detectable cardiac changes, were included in the study. Epidemiological considerations - clinical signs of vomiting and loose, watery feces with or without mucus and/or blood, marked leukopenia due to lymphopenia - were suggestive of canine viral gastroenteritis.

The pups were divided into two groups consisting of ten pups in each group. Pups of group A were treated with Ringer's lactate (60 ml per kg body weight, I.V., b.i.d. for 3 days) and *Arsenicum album* 30C at the dose rate of 4 pills PO at thirty minute intervals x 2 and then q.i.d for 3 days). Pups of group B were treated with Ringer's lactate (60 ml/per kg body weight, I.V., b.i.d. for 3 days), ondansetron (0.5-1.0 mg per kg body weight, IV first dose, then PO, b.i.d. for 3 days), a suspension of metronidazole (100 mg per 5 ml) and furazolidone (25 mg per 5 ml) at half to one teaspoonful PO, t.i.d. for 3 days) and cefotaxime (30 mg/kg body weight IM t.i.d. for 3 days). Clinical response and recovery rate (group A 80.0 %, group B 80.0%) in both the groups was comparable. Total cost of treatment in group A was lower (Rs 35 to 40) than that of group B (Rs.275 to 280).

From the preliminary clinical trial it appears that *Arsenicum album* was cost-effective as a complementary and alternative approach in the management of gastroenteritis in pups.

**Keywords:** *Arsenicum album*; canine viral gastroenteritis

## Introduction

Gastroenteritis is quite common in unvaccinated or improperly vaccinated pups. Though it is of varied etiology, gastroenteritis with vomiting and watery blood-tinged feces in unvaccinated pups is generally ascribed to viral infections such as parvo, distemper etc. Its confirmatory diagnosis depends on virus isolation, haemagglutination test, and ELISA and/or indirect fluorescent antibody tests. These tests are not possible in routine practice. Generally the pups with blood-mixed, watery feces and vomiting are clinically suspected of having viral gastroenteritis. Standard therapy includes supportive and nursing care, intravenous fluids, antibiotics, antimotility drugs, and antiemetics. In European countries, homeopathy has gained a reputation as an alternative therapy in the management of animal

diseases.(1) Many homeopathic drugs have been claimed to have antidiarrheic (*Arsenic album*, *Mercurius corrosivus*, *Mercurius solubilis*, *Nux vomica*, *Pulsatilla*, *Sulphur*) and antiemetic (*Arsenicum album*, *Mercurius corrosivus*, *Mercurius solubilis*, *Phosphorus*) effects in humans.(2)

The present study was, therefore, undertaken to evaluate the antidiarrheic and antiemetic efficacy of *Arsenicum album* in the clinical management of viral gastroenteritis in pups.

## Materials and Methods

### Animals

Twenty pups (Pomeranian, Spitzs, Doberman, and non-descript), aged 2 to 4 months, brought to

Referral Veterinary Polyclinic of the Institute during April 2004 to May 2005 with the clinical complaint of watery, blood-mixed feces and vomiting just after eating or drinking water, and having no apparent signs or electrocardiographic evidence of cardiac involvement, were included in the present study. Neither the pups nor their mothers had received any vaccination.

The pups were subjected to detailed clinical examination as per standard procedures. Total leukocyte count was done in cases when deemed necessary as per standard procedures. Cardiac evaluation employed a Cardiostat electrocardiograph machine and Bailey's hex axial lead system to exclude cardiac involvement.

### Homeopathic Drug

The homeopathic drug *Arsenicum album* 30C was chosen for clinical trial. The pups were alternately divided into two groups consisting of 10 pups in each group. The pups were treated as per following protocol.

The results indicated that the clinical response rate was 80% (8/10) in both groups. Two pups in each group either collapsed or did not turn up for response. Recovery was uneventful in three days in both the groups.

Total cost of three days treatment was Rs 35 to 40 in group A and Rs.275 to 280 in group B.

### Discussion

Clinical signs of frequent, watery feces with mucus and/or blood, vomiting, dullness, weakness, dehydration, normal to subnormal rectal temperature, in unvaccinated pups of 2 to 4 months age aroused suspicion of viral gastroenteritis. Leukopenia with lymphopenia lent further support to clinical suspicion of viral gastroenteritis.<sup>(3)</sup> *Arsenicum album* was chosen for its cardinal symptoms of extreme restlessness, marked weakness, coldness, vomiting and diarrhea aggravated by food and water, dysentery with dark, bloody and offensive stools.<sup>(4)</sup> These signs and symptoms corresponded to the symptoms in the present cases of viral gastroenteritis.

Groups	No. of Pups	Treatment schedule
A	10	<ol style="list-style-type: none"> <li>1. Ringers' lactate 60 ml/kg, IV, BID x 3 d</li> <li>2. <i>Arsenicum album</i> 30C: 4 pills PO at 30 min intervals x 2, then QID x 3 d</li> <li>3. No oral feedings for 24 hrs.</li> </ol>
B.	10	<ol style="list-style-type: none"> <li>1. Ringers lactate 60 ml/kg, IV, BID x 3 d</li> <li>2. Ondansetron 0.5-1.0mg/kg, IV first dose, then PO BID x 3d</li> <li>3. Suspension of metronidazole, 100mg, + furazolidone, 25 mg per 5 ml @ half to one teaspoonful, PO TID x 3 d</li> <li>4. Cefotaxime @ 30 mg/kg, IM, TID x 3 d.</li> <li>5. No oral feedings for 24 h.</li> </ol>

### Evaluation Criteria

Clinical recovery was based on reduction/absence of vomiting; reduction/absence of blood in feces; reduced frequency of defecation, regaining normal consistency of feces and return of appetite.

### Results

Gastroenteritis in these pups was clinically characterized by vomiting (3-4 times per day), anorexia; loose, watery feces mixed with blood and/or mucus (3 to 5 per day); dehydration, cold extremities, almost normal/slightly subnormal rectal temperature (98.8 to 101degrees F), dullness, depression, weakness, prostration, and no detectable cardiac changes. Leukocyte counts revealed marked leukopenia (TLC 3,200-4,000 per mm<sup>3</sup>) due to lymphopenia (absolute lymphocyte count 1200-1500 per mm<sup>3</sup>).

Eight out of ten pups (80%) in each group showed

clinical recovery within three days of aggressive management. Though enteric hemorrhage and vomiting tendency began decreasing by the first evening in group A, the medication was continued for three days as per the pre-determined clinical protocol. Consistency of the feces improved and the frequency of stool decreased on day two after initiation of the therapies. In group A *Arsenicum album* alone was given to treat both the symptoms of diarrhea and vomiting while separate drugs - ondansetron and a combination of metronidazole and furazolidone - were administered to alleviate the symptoms of vomiting and diarrhea respectively in group B. *Arsenicum album* has been described as a drug of choice in the management of vomiting just

after eating or drinking.(4) Recovery from diarrhea appears to be due to its antidiarrheal action.(5) . *Arsenicum album* or *Mercurius corrosivus* alone have also been used in the management of diarrhea in animals.(1) A pilot double-blind study of diarrhea in neonatal calves demonstrated beneficial effects of *Arsenicum album* 30C.(6) Standard polyionic fluid therapy was adopted in both groups to counteract dehydration, a common accompaniment in viral gastroenteritis. Failure of twenty percent cases to respond could be ascribed to severe electrolyte imbalance, dehydration, toxemia, or secondary invasions.

The results of *Arsenicum album* in the management of canine viral gastroenteritis were highly encouraging and comparable with standard allopathic therapy, but at much lower cost of treatment (Rs. 35-40).

It seems that *Arsenicum album* can be a cost-effective alternative and complementary therapy, along with polyionic fluid transfusion, in the management of vomiting and diarrhea associated with canine viral gastroenteritis.

## References

1. Day, C. Veterinary Homeopathy. Principle and Practices. In: *Complementary and Alternative Veterinary Medicine. Principles and Practice*. Schoen,

AM, Wyne, SG, (Eds.), St. Luis: Mosby; 1998. pp. 485-513.

2. Boericke, W. *Pocket Manual of Homeopathic Materia Medica* .9<sup>th</sup> edn. New Delhi: Indian Books and Periodicals Publishers; 2001.
3. Greene, CE. *Clinical Microbiology and Infectious Diseases of the Dogs and Cats*. Philadelphia: W.B. Saunders Co.; 1984; pp 441-43.
4. Murphy, R. *Lotus Materia Medica*. 2<sup>nd</sup> revised edn. New Delhi: B. Jain Publishers (P) Ltd.; 2002.
5. Sharma, RG. *Saral Homeopathic Materia Medica*. Bhasa Bhawan. Mathura; 1978.
6. Kayne, S, Rafferty, A. The use of *Arsenicum album* 30C to complement conventional treatment of neonatal diarrhea (scours) in calves. *Br.Homeopathic J.* 1994; **83**:202.

Address for Communication:

Dr. J.P.Varshney  
Principal Scientist  
Division of Medicine  
Indian Veterinary Research Institute, Izatnagar-243  
122 (U.P), India  
E-mail: jpv@ivri.up.nic.in;  
dr\_jpvarshney@rediffmail.com  
jpvarshney@gmail.com;  
drjpvarshney@indiatimes.com

AFH