



**SOCIETÀ ITALIANA DELLE SCIENZE VETERINARIE**

*In collaborazione con:*



Università  
degli Studi  
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Dipartimento di  
Medicina Veterinaria di  
Perugia



IZS  
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delle Marche



## **ATTI DEL LXIX CONVEGNO SISVET**



**Perugia, 15-17 Giugno 2015**

**Università degli Studi di Perugia  
Dipartimento di Medicina Veterinaria  
Via S. Costanzo, 4 - 06126 Perugia**



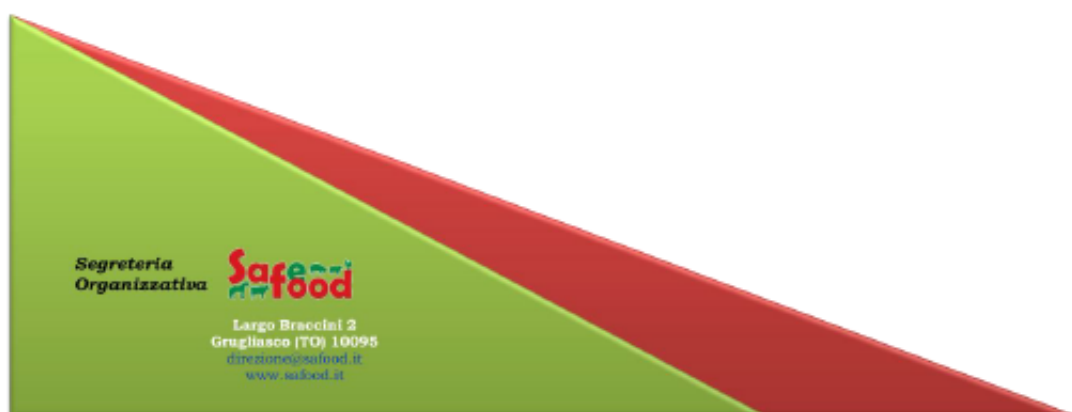
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## CHRONIC INTESTINAL PSEUDO-OBSTRUCTION WITH SEVERE MYOPATHY AND FIBROSIS IN A YOUNG MINIATURE BULL TERRIER

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Chronic intestinal pseudo-obstruction (CIPO) is a rare clinical syndrome in veterinary medicine defined by severe intestinal dysmotility without evidence of mechanical occlusion of the intestinal lumen. A few canine cases of CIPO have been reported and most have been related to an idiopathic sclerosing enteropathy or fibrosing gastrointestinal leiomyositis, less frequently to dysautonomia (3). In human medicine CIPO can be caused by different gastrointestinal neuromuscular diseases (GINMDs) including primary visceral neuropathies, interstitial cell diseases and myopathies (3). A one-year-old male miniature bull terrier dog was presented with chronic weight loss, regurgitation, vomiting and diarrhoea. On exploratory laparotomy the small intestine was not obstructed but appeared markedly distended with fluid and gas and the wall was thinned. Full thickness intestinal biopsies of small intestine were obtained. Due to the persistent clinical signs of dysmotility the dog's clinical condition severely deteriorated thus euthanasia was elected. Necropsy confirmed that small intestine was severely dilated and filled by a moderate amount of greenish fluid content. The wall was diffusely thinned and atonic. A complete set of tissue was taken for histopathology, including various portions of intestinal tract. Sections of intestinal tract were also stained with periodic acid-Schiff (PAS) and Masson trichrome and were submitted to immunohistochemistry using antibodies to alpha-smooth muscle actin ( $\alpha$ -sma), neurofilament, synaptophysin, neuron specific enolase (NSE), CD117, glial fibrillary acid protein (GFAP), CD3 and CD79. Histological findings of the small and large intestines consisted of severe diffuse atrophy of the tunica muscularis and severe locally-extensive to diffuse fibrosis of submucosa as demonstrated by Masson trichrome stain. Additionally intestinal mucosa appear multifocally eroded. The myenteric and submucosal nerve plexuses had intact neurons confirmed by immunohistochemistry for NSE, neurofilament and synaptophysin without inflammatory infiltrates. Also interstitial cells of Cajal were preserved and were strongly stained for CD117. However  $\alpha$ -sma immunoreactivity was markedly reduced in the muscular layers of all the different intestinal sections examined with foci of complete loss. Loss of  $\alpha$ -sma expression is recognized as a marker for intestinal dysmotility and myopathy causing CIPO in human medicine. Recently a case of CIPO associated with deficient expression of  $\alpha$ -sma in the muscular layer and loss of myofibrils has been described in a Bengal cat and a leiomyopathy has been hypothesized (1). The clinical, histopathological and immunohistochemical findings of this rare case is consistent with enteric myopathy and fibrosis and could be referred to a GINMDs as in human medicine.

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2. Johnson CS, Fales-Williams AJ, Reimer SB et al. (2007). Fibrosing gastrointestinal leiomyositis as a cause of chronic intestinal pseudo-obstruction in an 8-month-old dog. *Vet Path*; 44:106-109

3. Knowles CH, De Giorgio R, Kapur RP, et al. (2009). Gastrointestinal neuromuscular pathology: guidelines for histological techniques and reporting on behalf of the Gastro 2009 International Working Group. *Acta Neuropathol*. 118:271-301.