HEPATOPATHY IN DOGS & CATS, TRADITIONAL ACUPUNCTURE THERAPY

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Hepatic affections are quite common in small animals practice. We can find hepatitis, cholangiohepatitis, lipidosis, steatosis, fibrosis, cirrhosis, portosystemic shunts, tumors, cysts and other diseases. The large number of liver’s metabolic functions, its double circulation and its filter’s role have as consequence its easy overworking and involvement in pathogenic events occurring in other parts of the organism. Incorrect diet, especially if hypercaloric, frequent administration of drugs and vaccines, toxins and hormones produced by the organism or introduced with the aliments and by the environment are some factors that can lead to a weakening and finally to a real degeneration of liver.

Also from a Chinese point of view the Liver has many functions, so it is easily involved in pathologies. Diet plays an important role in the genesis of Liver disease, as well as the mental component: anger and frustration, the emotions that mainly damage this organ, can lead to an interruption of the free flow of Qi, usually provided by the Liver. In modern society, the frenetic lifestyle and work are sources of constant stress, so the Liver is often under pressure and it easily undergoes to a Qi obstruction, that can degenerate in Blood’s obstruction or production of Heat or Wind, with repercussion throughout the body. These arguments are valid for people but can also relate to animals, because of our tendency to radically change the habits of our pets. At the same time, living in close contact with us, they often feel our emotions and worries, with possible impact on their health.

Although liver diseases are common, conventional therapy is often limited to a specific diet and supplements. On the other hand, the disorders of the liver make it necessary limitation of drugs, so as to prevent its further overload. From this point of view, the Chinese medicine is interesting because it doesn’t imply drugs’ administration.

Several studies in humans and animals demonstrate the effectiveness of acupuncture in various hepatobiliary diseases. Chou WC et al. (2012) showed that electro-acupuncture at Ququan (LR8) can increase the blood flow in liver. Many experiments were carried out to investigate liver’s reaction to administration of various toxic agents with or without acupuncture therapy: they proved that acupuncture can reduce liver damage, serum levels of transaminase, cholangitis and hyperbilirubinemia (Zhang F et al., 2012; Tanahashi N et al., 2011; Liu J et al., 2007; Yang et al., 1993). Electroacupuncture can lower serum triglyceride and total cholesterol in rats with nonalcoholic fatty liver disease, which is closely related to its effects in up-regulating the expression of hypothalamic leptin mRNA (Bai CY, 2010). A study (Liu HW, 2011) showed that elevated biochemical parameters of liver injury and marked infiltration of neutrophils into liver tissues caused by lipopolysaccharides were significantly attenuated by electro-acupuncture at PC6. Moxibustion may increase hepatic glycogen content and improve ultrastructure of hepatocytes in fatigue rats, relieving exercise-induced fatigue (Lu J et al., 2011). Lipid peroxidation injuries caused by dietetic factors (Feng et al.,2009) or by septic factors (Shi et al., 2010) had a positive response to acupuncture and the comparison between acupuncture treatment and administration of phosphatidylcholine (Meng, 2009) or thiopronine (Liu et al., 2010) in patients with non-alcoholic steatohepatitis showed a better result in subjects treated with acupuncture. Mild alcoholic liver injury can also benefit by electroacupuncture in Taichong (LR3) (Chen BJ, 2011). On the other side, acupuncture combined with Chinese herb plus western medicine treatment showed a more significantly improvement of clinical symptoms in patients with compensated liver cirrhosis than
simple western medicine (Han J. et al., 2009). Therefore the two methods are not mutually exclusive, although differing, on the contrary they can complement each other. Other studies showed that electrical acupuncture in Ganshu (BL 18) and Qimen (LR 14) promotes the secretion of hepatic bile, reduces the contents of biliary total bilirubin and free bilirubin and effectively inhibits the lithogenesis caused by lithogenic food (Ma C et al., 1996; Zhang Y et al., 1991). Finally it was observed that visual inspection and electrical skin resistance on the liver auricular acupuncture zone are potentially sensitive to screen hepatic disorders (Cheing GL, 2009).

The purpose of the present study was to investigate the effects of acupuncture on small animals’ liver diseases. A total of five dogs and one cat were selected on the basis of clinical presentation, blood tests and ultrasound. An accurate traditional Chinese examination was performed to evaluate the best acupuncture treatment, which was carried out once weekly for 5-10 weeks. The acupoints kept fixed in all the animals were:

- Ganshu (BL18): back shu point for the Liver, it extinguishes Wind, Heat and Moist, moves Qi and nourishes Blood. It is used for all diseases of Liver and Gall Bladder.
- Taichong (LR3): shu stream point (earth), yuan source point. It is useful to move Qi stagnation, to calm Liver in excess syndromes, to nourish Liver Yin, to dispel Wind, in all disorders of Liver and Gall Bladder.
- Yanglingquan (GB34): he-sea point (earth), influential point for tendons and ligaments. It is useful to move Qi stagnation, in every tendon and muscular disorder and for general pain relief.

Other points were chosen in relation to the specific case and Moxibustion was also used, were necessary. At the end of the acupuncture cycle, the patient’s clinical status and serum parameters were reevaluated to establish the results of therapy. A specific diet for hepatic problems was also recommended, as well as nutritional supplements for the liver.

Case 1, Toby, was a 10-years-old Epagneul Breton male, with steatosis and elevated alanine aminotransferase (ALT) and alkaline phosphatase (ALP) levels. Ultrasound also revealed prostatic hypertrophy. On Chinese examination a Stagnation of Liver’s Qi resulted, with involvement of the Spleen-Stomach and consequent soft stools, vomit and tartar. Prostatic hypertrophy may result from Stagnation of Qi and from Spleen’s Qi deficit. Acupuncture treatment aimed at regulating Liver function, promoting Qi flow and nourishing Spleen and Stomach. The main acupoints utilized for this case were: PC6, BL18, LR3, LR14, GB34, ST36, SP6, KI3. After five treatments serum alanine aminotransferase was sensibly reduced and alkaline phosphatase was normalized. Acupuncture was then interrupted and further controls revealed an increase in blood ALT, even if the dog went on with diet and supplements for the liver. This case suggests the superior effectiveness of combined traditional and Chinese treatment, which led to the best results. Other acupuncture sessions were probably necessary for a further improvement, considering the chronicity of this hepatic disease.

Case 2, Cindy, a 12-years-old Border Collie, female, presented an acute and severe cholangiohepatitis with depression, fever, vomiting, icterus and marked increase of ALT and ALP. On Chinese examination an excess Damp-Heat syndrome of Liver and Gall Bladder was found, probably referable to a fat and caloric diet. Acupuncture treatment was started at the same time of traditional cares (antibiotics and fluids), which were necessary because of the seriousness of the illness. Six acupuncture sessions were performed, in order to clear Heat and Phlegm, move Qi stagnation and purify the body from toxins and antibiotics. The main acupoints employed were: LR2, LR3, BL18, LR14, GB34, ST36, CV12, PC6, LI4, SP6. Cindy’s conditions improved quickly and, at the end of therapy, both symptoms and blood parameters had returned to normality. In this case the combination of oriental and occidental approaches seemed to be determinant for a speedy recovery. The acute beginning of the disease can also explain its rapid and complete resolution.

Case 3, Matisse, was a 12-years-old Persian cat, male, with hepatic nodular hyperplasia, maybe as a consequence of hyperthyroidism, treated with methimazole. He also presented an intervertebral lumbosacral fusion, which was the cause of ataxia on the hind legs. On Chinese examination a Yin deficiency of Kidney and Liver with Empty Heat of Liver and Heart was detected. The relative
Yang excess explains hyperthyroidism symptoms such as tachycardia, hypertension, polyphagia and loss of weight, while deficit of Kidney and Liver, respectively related to bone and tendons-joints, were the cause of lumbosacral abnormality and ataxia. Acupuncture therapy aimed at nourishing Liver and Kidney, particularly the Yin part. The first need for the owners and the animal was to strengthen the column and improve deambulation. Ten weekly acupuncture sessions were performed. The points mainly utilized were BL18, LR14, GB34, LR3, PC6, BL23, KD3, ST36, K16, Bai Hui and SP6. Moxa was also associated on the lumbosacral area, because the heat was only relative to an empty condition below. In consequence of this, we noted an immediate and marked improvement both in deambulation and in general status. At the end of the cycle, ataxia was completely disappeared and levels of ALT were slightly reduced. During acupuncture treatment we essayed to halve the methimazole’s dosage, although the recent examinations of the thyroid values (T4 and fT4) were beyond the limits. At the end of acupuncture therapy both T4 and fT4 were reduced to normality.

Case 4, Emma, a 9-years-old Labrador, female, presented a lasting situation of steatosis with elevated levels of ALT and ALP. On Chinese examination an empty of Spleen and Lung was found, with consequent lack of control on the Liver. This explained the frequency of diarrhea, neoplasias, compulsive behavior of licking and allergic dermatitis. Acupoints were chosen in order to tone up Spleen and Stomach and to regulate Liver. The main points utilized were: BL20, BL21, BL18, LR3, GB34, ST36, SP6, LR13. After a first cycle of five acupuncture treatments hepatic parameters were still elevated, so the owner decided to stop acupuncture. Anyway he noticed that Emma was more active during the period of acupuncture treatment and she never had diarrhea and otitis as usual. Liver’s alterations were so chronic that it was difficult to obtain a remission in such a short time.

Case 5, Tobia, a 14-years-old male dog had a long list of problems: Cushing syndrome, treated with trilostane, and consequent elevated ALT and ALP with the presence of hepatic glycogenosis, frequent diarrhea, sertoli cell tumor in the left testicle and urinary incontinence after orchietomy, preputial mastocitoma and spleen nodular hyperplasia. He also presented cataract and a recent dyspnoea and cough, with a suspected chronic bronchitis by radiography. On Chinese examination a complex situation appeared. There was a basic state of Kidney Empty, which explained Cushing syndrome, cataract and urinary incontinence. Kidney deficiency caused Spleen Empty, with consequent diarrhea and frequent neoplasias, and Lung Qi deficit, at the basis of respiratory problems. Liver was secondarily involved from a general empty, particularly of the Kidney, whose Yin usually nourishes the Liver’s Yin. Acupuncture treatment was initially oriented to alleviate cough and incontinence (the main problems for the owner), so we utilized points to strengthen Kidney, Spleen, Lung and Liver, at the same time promoting a flowing Qi circulation. The points alternatively combined were: BL23, BL13, BL18, CV17, LU1, LU7, LI4, GV4, LR3, K17, GV20, CV3, GB34. Moxa was also applied on the Back Shu points. Tobia benefited by the seven acupuncture treatments, especially from a respiratory and general point of view. On the contrary, serum levels of ALT and ALP didn’t decrease. In this case, due to the chronic and complex situation, the main result we obtained was the general improvement of the animal’s breathing and vitality.

Case 6, Briciola was a Maltese female 10-years-old with a chronic situation of steatosis and elevated ALT and ALP. She was a wood type, with a protrusion in L3-L4, treated with medical therapy, bilateral subluxation of patella, one episode of epilepsy and chronic diarrhea, that improved with a diet for intestinal problems. She also presented a recent sarcoma at the left shoulder, cause of occasional lameness. On Chinese examination a deficit of Kidney and Spleen Qi with blockage of Liver Qi was detected. Acupuncture treatment aimed at strengthening the three organs and promote a correct Qi circulation. She was not very cooperative, so the points utilized were always few: BL18, BL20, BL23, LR3, GB34, ST36, GV4. It wasn’t possible to treat the fore limbs. Briciola underwent six acupuncture sessions and she improved from a general point of view: stool were more solid and gait became more easy. She took a supplement for the liver but not a specific diet.
Blood tests showed a halving of ALT and ALP, even if ALT was still elevated. Another cycle of acupuncture was suggested but the owner preferred to operate the dog. The results of this study suggest the possibility of utilizing acupuncture as an adjuvant therapy for liver dysfunctions, taking into account that, in acute situation, therapy could be effective and resolutive in a short time, especially if started early. On the other side, chronic diseases should require a more prolonged treatment. Since we used both acupuncture and supplements for liver and diet, we don’t know what therapy was more effective, but it appeared that acupuncture has increased and accelerated improvements. Anyway we obtained an amelioration in 4 out of 6 cases. In the unique acute case there was a complete resolution. Finally, in all the animals there was a beneficial effect on general conditions.