Management of Weight Loss in Cats

Weight loss and anorexia in cats are common problems secondary to numerous underlying diseases. Prolonged anorexia and weight loss can lead to serious sequelae such as hepatic lipidosis [1], reduced immunity [1], delayed wound healing [2], decreased survival times [3], and indirectly influence an owner's decision to euthanize cats with chronic disease [4].

Regardless of the underlying disease, appetite modulation via pharmacotherapy can play a valuable role to improve a patient's nutritional status and ability to recover from the underlying illness or injury [2]. There are no approved veterinary products to manage weight loss in cats.

Mirtazapine

Mirtazapine is a noradrenergic and specific serotoninergic antidepressant with anxiolytic and appetite-stimulating properties. Its presynaptic α2-adrenergic receptor antagonism results in increased norepinephrine which likely contributes to its appetite-stimulating effects [2].

Mirtazapine blocks three serotonin (5-HT2A, 5-HT2C and 5-HT3) and histamine (H1) receptors. Antagonism of 5-HT2C and/or H1 receptors potentially stimulate appetite regulated by the hypothalamus, thus leading to weight gain [5].

Antagonism of 5-HT3 reduces nausea and vomiting in humans [6].

Mirtazapine was shown to increase food intake and weight gain in both humans [7] and cats [2, 8]. Mirtazapine transdermal ointment achieves clinically relevant serum concentrations in cats and results in increased body weight at a dose of 0.5 mg/kg.

Figure 1: Chemical structure of mirtazapine

Mirtazapine transdermal ointment was well tolerated in cats when administered at 5 mg/kg for 28 consecutive days. There were no clinically relevant findings following blood pressure, hematology, serum chemistry, or cardiovascular assessment in any enrolled cat. 2 CKD cats. Normal urine specific gravity.