Lesion Index and Canine Atopic Dermatitis Extent and Severity Index, 4th iteration. Correlations were assessed between the CDQOL-TSQ and all other measures. Moderate-to-high correlations (Spearman rank-order,  $r_S = 0.30$ -0.50) were expected between the QoL evaluation tools, as domains measure similar concepts, whereas lower correlations ( $r_S < 0.30$ ) were expected between the CDQOL-TSQ and the disease severity measures, as lesions and pruritus are different from the QoL. The CDQOL-TSQ demonmoderate-to-strong correlations with the QoLQDSD, thus suggesting a convergent validity (Dog's QoL;  $r_S = 0.42-0.49$ , Owner's QoL;  $r_S = 0.47-0.63$ ) and confirming that these questionnaires measure similar concepts. Lower correlations were found between the disease severity measures and the CDQOL-TSQ ( $r_S = 0.19-0.29$ ), suggesting that they are conceptually different. The CDQOL-TSQ is a valuable tool for QoL assessment that could be used, alongside clinical signs measures, to fully understand disease burden in dogs with dermatitis.

## Source of funding: Zoetis.

Conflicts of interest: CN has received lecture and consultation fees from Zoetis; AW and JR are employee of Zoetis.

## Cutaneous bullous mastocytosis in a Yorkshire terrier puppy

A. PETAK\*, I. C. ŠOŠTARIC-ZUCKERMANN†, A. GUDAN KURILJ† and N. LEMO\*

\*Faculty of Veterinary Medicine of University of Zagreb, Clinic for internal diseases, Zagreb, Croatia †Faculty of Veterinary Medicine of University of Zagreb, Department of veterinary pathology, Zagreb, Croatia

Diffuse cutaneous mastocytosis (DCM) is rare variant of cutaneous mastocytosis, representing 1-5% of all cases in human paediatric medicine. Blistering and bullae may be the presenting symptoms and the blisters can be haemorrhagic. A 7-month-old Yorkshire terrier puppy had cutaneous bullous lesions that started at six weeks of age with occasional vomiting, painful defaecation and hypotensive episodes. Skin changes were generalized but the ventral abdomen was severely affected. The skin was alopecic, severely thin and hypotonic with prominent blood vessels. Bullae were seen mostly in the inguinal and axillary regions, with ulceration and haemorrhage. Histopathological examination showed severe diffuse infiltration of mast cells. Immunohistochemistry for C3, C9 and mixed IG depositions ruled out other autoimmune bullous diseases. The C-kit receptor expression was characterized by no or faint membrane staining, yet intensive and partially granulated cytoplasmic reaction (most consistent with KIT pattern 2). The dog was treated with ranitidine, cetirizine, methylprednisolone and a restrictive diet. A second biopsy revealed no significant improvement. With Masitinib mesylate (Masivet, AB Science; Paris, France) at 9.6 mg/kg once daily for two months, and every other day for one more month, haemorrhagic bullae reduced in size and severity. A third biopsy after 10 months of treatment revealed a decreased number of

mast cells but severe dermal atrophy. To the best of the authors' knowledge, this is the first described case of cutaneous bullous mastocytosis in a puppy and, therefore, should be included in differential lists where bullae are the dominant feature in young animals.

Source of funding: Self-funded.

Conflicts of interest: None declared.

## Efficacy of allergen-specific immunotherapy in dogs with atopic dermatitis: a retrospective study of 145 cases

L. RAMIÓ-LLUCH\*, P. BRAZÍS\*, L. FERRER† and A. PUIGDEMON‡

\*Animal Health, B.U. Laboratorios LETI, Barcelona, Spain †Department of Animal Medicine and Surgery, Universitat Autonòma de Barcelona, Barcelona, Spain ‡ Department of Pharmacology, Therapeutics and Toxicology, Universitat Autònoma Barcelona, Barcelona, Spain

Allergen-specific immunotherapy (ASIT) has been used for years in dogs with atopic dermatitis (AD), although evidence for efficacy are limited. The aim of this study was to review retrospectively a large number of dogs with AD treated with ASIT to better understand the factors that may influence its efficacy. Of 145 privately owned dogs diagnosed with AD between 2016 and 2018 and treated with ASIT, 33 (23%) discontinued the ASIT before 10 months, due to lack of efficacy (11%) or for other reasons (owner compliance, cost, development of other diseases;12%). Approximately half of the dogs that discontinued the treatment did not refill it and therefore they were treated only for less than eight months. Of the 112 dogs treated with ASIT for >10 months, 81 (72%) showed a significant improvement in clinical signs, measured in a disease severity score from 0 to 10 ( $P \le 0.001$ , Student's paired t-test). The clinical signs began to improve at a mean time of 4.7  $\pm$  2.7 months after beginning treatment. ASIT also was associated with a sparing effect of concomitant medication (specifically in local and systemic corticoids, oclacitinib, systemic and local antibiotics; P < 0.001). After this period, 58% of the dogs were treated exclusively with ASIT. Approximately 50% of the withdrawn animals did not refill the prescription and this may be one cause for the limited success of ASIT reported in the literature.

Source of funding: This study was supported in part by Laboratorios LETI.

Conflicts of interest: LR and PB are employees of Laboratorios LETI; they participated in the design of the study and helped to the draft of the manuscript. LF and AP have received unrelated funding from LETI. No conflicts of interest have been declared by the other authors.