# CORRELATION BETWEEN PLASMATIC LEVELS OF OCLACITINIB AND CLINICAL RESPONSE IN DOGS WITH ATOPIC DERMATITIS

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Final degree project - 25th June 2019

## BACKGROUND

Oclacitinib is a Janus kinase (JAK) inhibitor[1]. JAK1-dependent cytokines (IL-2, IL-4, IL-6, IL-31 and IL-13) are involved in inflammatory processes and allergies, and are also important in pruritus pathways[2].

Despite oclacitinib is a safe and effective drug in canine atopic dermatitis (CAD) treatment, some dogs do not show a positive clinical response.

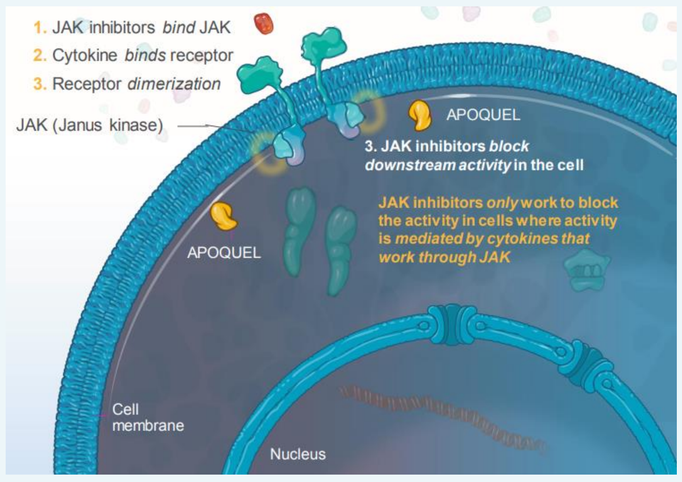


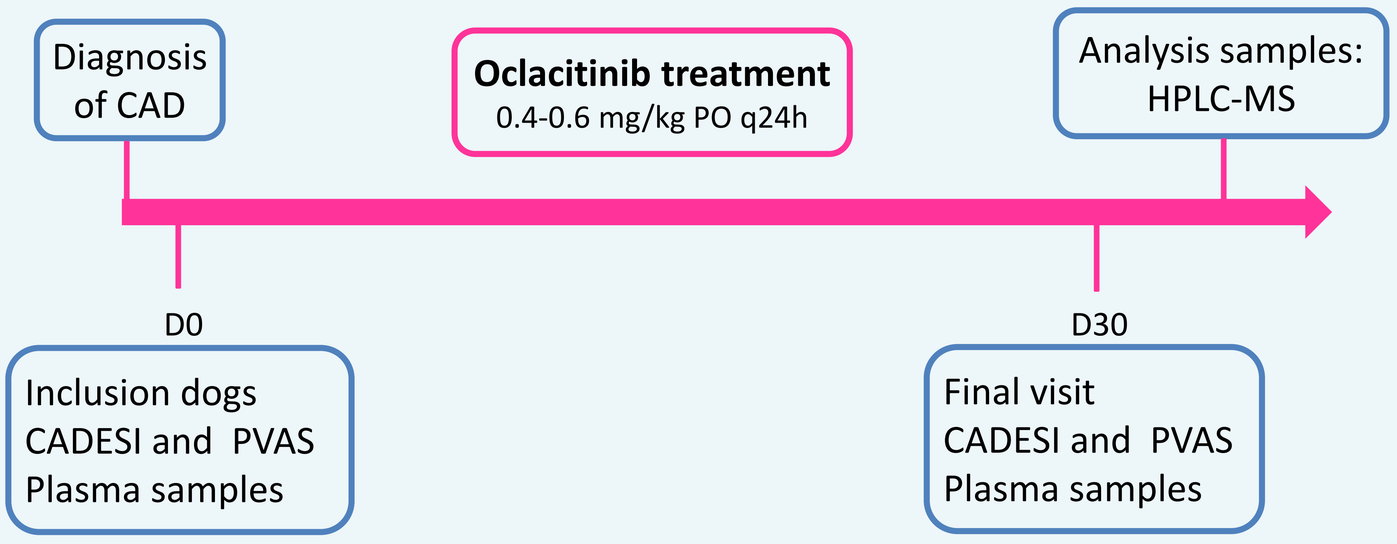

***Figure 1.*** *Mechanism of action of oclacitinib (CAD Immunotherapeutic, 2015. Zoetis)*

## OBJECTIVES

✓ To determine oclacitinib plasmatic concentrations in atopic dogs after 30 days of treatment.

✓ To assess a possible correlation between clinical improvement and plasmatic levels of oclacitinib.

## MATERIAL AND METHODS



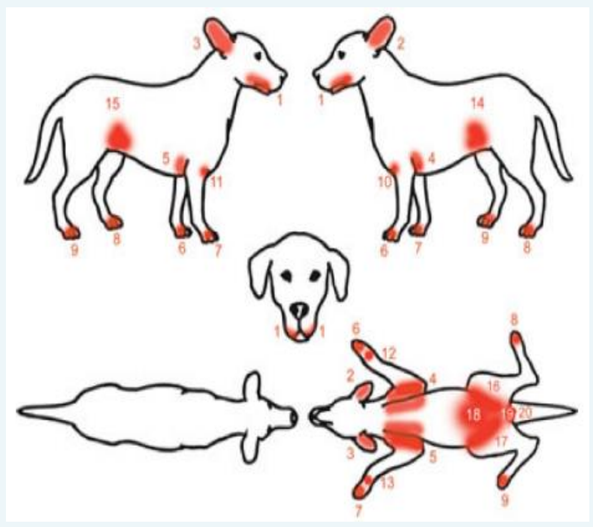
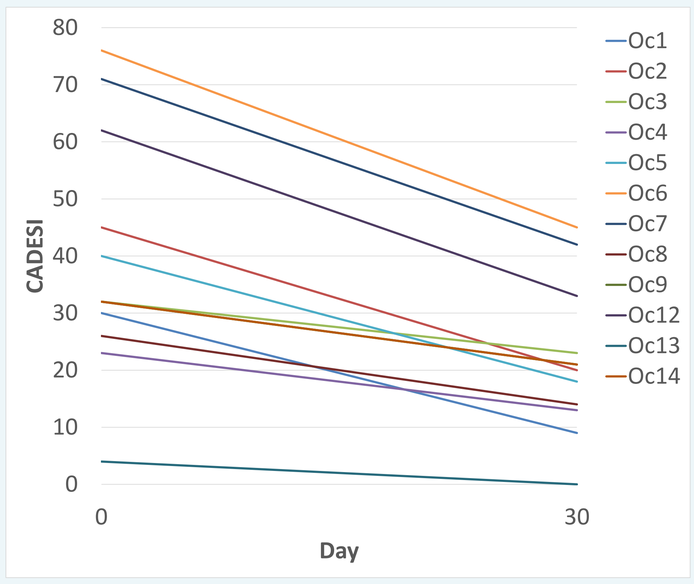



***Figure 2.*** *Body sites evaluated in CADESI-4 [3].*

## RESULTS



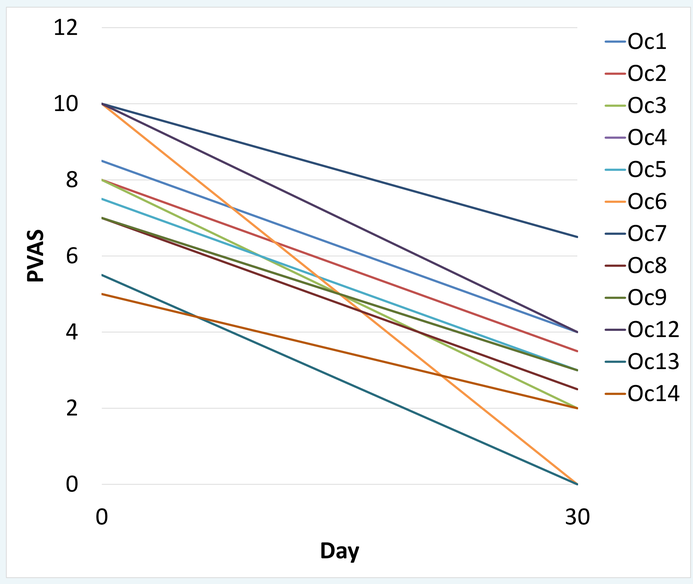




***Figure 3****. Clinical evolution in CADESI and PVAS scores.*

***Table 1****. Oclacitinib plasma levels at day 30 and clinical reduction in CADESI and PVAS scores.*

| CASE | PLASMATIC LEVELS OF OCLACITINIB D30 (ng/mL) | CADESI REDUCTION (%) | PVAS REDUCTION (%) |
|---|---|---|---|
| Oc1 | 150,9 | 70 | 52,94 |
| Oc2 | 447,1 | 55,55 | 56,25 |
| Oc3 | 294,9 | 28,12 | 75 |
| Oc4 | 321,1 | 43,47 | 57,14 |
| Oc5 | 95,4 | 55 | 60 |
| Oc6 | 356,1 | 40,80 | 100 |
| Oc7 | 35,5 | 40,85 | 38 |
| Oc8 | 8,8 | 46,15 | 64,29 |
| Oc9 | 344,2 | 34,37 | 57,14 |
| Oc12 | 370,5 | 46,77 | 60 |
| Oc13 | 152,2 | 100 | 100 |
| Oc14 | 302,7 | 34,37 | 60 |

## CONCLUSIONS

- Oclacitinib plasmatic concentrations showed an important variability.
- Every dog had a positive response to the treatment.
- Only 33% of atopic dogs show an improvement in CADESI index. However, in PVAS score, 91.6% show an improvement.
- It cannot be assess a correlation between plasmatic levels of oclacitinib and clinical response.

## REFERENCES

1. Gonzales AJ, Bowman JW, Fici Gjet al. 2014. Oclacitinib (APOQUEL ® ) is a novel Janus kinase inhibitor with activity against cytokines involved in allergy. Journal of Veterinary Pharmacology and Therapeutics. 37(4):317–324.

2. Gonzales AJ, Fleck TJ, Humphrey WR, et al. 2016. IL-31-induced pruritus in dogs: A novel experimental model to evaluate anti-pruritic effects of canine therapeutics. Veterinary Dermatology. 27(1):34-e10.

3. Olivry T, Saridomichelakis M, Nuttall T, et al. 2014. Veterinary Dermatology. 25(1):77–e25.