Abstract Group: 5.1. Airway Pharmacology and Treatment
Keyword 1: Allergy Keyword 2: Asthma - management Keyword 3: Inflammation

Title: Effects of corticosteroid and montelukast treatment in inflammation in guinea pigs with chronic allergic inflammation

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Body: The effects of montelukast or dexamethasone in asthma pathophysiology are barely understood. We evaluated the inflammation and the eosinophilic recruitment in distal lung parenchyma and airway walls in guinea pigs (GP) with chronic allergic inflammation. GP were inhaled with ovalbumin (OVA group-2x/week/4weeks). After 4th inhalation, GP were treated with montelukast (M group-10mg/Kg/PO/day) or dexamethasone (D group-5mg/Kg/IP/day). After 72 hrs of 7th inhalation, GP were anesthetised, lung strips were submitted to histopathological evaluation. On distal parenchyma both montelukast and dexamethasone were effective in reducing the number of eosinophils, RANTES and NF-kB positive cells compared to OVA group (p<0.05). Montelukast was more effective in reducing the eotaxin positive cells compared to dexamethasone treatment (p<0.05). There was a more expressive reduction of IGF-I positive cells in D group compared to M animals (p<0.05). On airway walls, both montelukast and dexamethasone were effective in reducing the number of eosinophils, IGF-I and RANTES positive cells compared to OVA group (p<0.05). Dexamethasone was more effective reducing the number of eotaxin and NF-kB positive cells than Montelukast (p<0.05). Conclusions: In this animal model, both corticosteroid and montelukast treatments contribute to the control of the inflammatory response in distal lung parenchyma and airway walls. Dexamethasone treatment induced a greater reduction of NF-kB expression in airway walls which suggests one of the mechanisms that explains the higher efficacy of this therapeutic approach. Supported by: FAPESP, CNPq, LIM-20-HC-FMUSP.