

عنوان مقاله:

Correlation of Histamine Receptors and Adrenergic Receptor in Broilers Appetite

محل انتشار:

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خلاصه مقاله:

The current study was conducted to investigate the interaction between the central adrenergic and histaminergic systems and the broiler chick's feed intake. In the first experiment, the intracerebroventricular (ICV) injection of solutions was conducted which included 10 nmol of prazosin (an α_1 -receptor antagonist), 300 nmol of histamine, co-injection of prazosin and histamine. Experiments two to five were conducted similarly the same as the first experiment, in which chickens were ICV injected with 10 nmol of yohimbine (an α_2 -receptor antagonist), 20 nmol of metoprolol (a β_1 adrenergic receptor antagonist), 5 nmol of ICI 118,551 (a β_2 adrenergic receptor antagonist), and 20 nmol of SR 59230R (a β_3 adrenergic receptor antagonist). The injected solutions in the sixth experiment included 300 nmol of noradrenaline, 250 nmol of α -FMH (an alpha fluoromethyl histidine), noradrenaline, and α -FMH. Seventh to ninth experiments were similar to the sixth experiment, except that the chickens were ICV injected with 300 nmol of chlorpheniramine (a histamine H₁ receptors antagonist), 80 nmol of famotidine (a histamine H₂ receptors antagonist), and 300 nmol of thioperamide (a histamine H₃ receptors antagonist), rather than α -FMH. Afterward, the cumulative food intake was measured 120 min after injection. Based on the obtained results, both histamine ICV injection and noradrenaline injection reduced food intake ($P < 0.05$). Moreover, co-injection of histamine and ICI 118,551 ($P < 0.05$), and co-injection of noradrenaline and Chlorpheniramine reduced food intake ($P < 0.05$). In addition, noradrenaline and Thioperamide co-injection improved hypophagic effect of noradrenaline in neonatal chicken ($P < 0.05$). These findings suggested the effect of interconnection between adrenergic and histaminergic systems, which may be mediated by H₁ and H₃ histaminergic and β_2 adrenergic receptors, on the regulation of food intake in the neonatal broiler chicken.

کلمات کلیدی:

Adrenergic, Broiler chicken, Food intake, Histamine

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