عنوان مقاله:

اثرات متقابل گیرنده های H1 و H3 هیستامینی با گیرنده های D1 دوپامینی بر رفتار تغذیه ای جوجه ها

محل انتشار:

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خلاصه مقاله:

BACKGROUND: Brain monoamines (such as histamine and dopamine) play an important role in emotions, cognition, reward and feeding behavior. The interactions between histamine and dopamine were studied in many physiological functions but this correlation is unclear in feeding behavior of chickens. The aim of this study was to investigate the interaction of central histaminergic and dopaminergic systems on food intake in broiler chicken. METHODS: In this study we used from intracerebroventricular (ICV) injection for manipulating of histaminergic and dopaminergic systems. In Experiment 1, 3 h-fasted chicks were given an ICV injection of histamine, SCH23390, a D1 receptors antagonist and co-injection of histamine and SCH23390. Experiments 2-5 were similar to experiment 1 except birds were injected with AMI-193, D2 receptors antagonist; NGB2904, D3 receptors antagonist; L-741,742, D4 receptors antagonist and 6-OHDA, 6-hydroxydopamine instead of SCH 23390, respectively. In experiment 6, ICV injection of dopamine, chlorpheniramine, H1 receptors antagonist and co-administration of dopamine and chlorpheniramine were done. Experiments 7-9 were similar to experiment 6, except birds ICV injected with famotidine, H2 receptors antagonist; thioperamide, H3 receptors antagonist and α-FMH, alpha-fluoromethylhistidine in place of chlorpheniramine, respectively. Then cumulative food intake (g) was measured at 30, 60 and 120 min after the injection. RESULTS: Histamine decreased food intake compared to the control chicks indicating a inhibitory effect of histamine on food intake and SCH23390 attenuated the effect of histamine on food intake($P<0.001$). In addition, hypophagic effect of histamine decreased by 6-OHDA($P<0.001$). Chlorpheniramine and α-FMH significantly attenuated dopamine induced hypophagia($P<0.001$). However, thioperamide amplified the inhibitory effect of dopamine on food intake($P<0.001$). CONCLUSIONS: These results suggest, there is relationship between histaminergic and dopaminergic systems on food intake in chicken and H1, H3 and D1 receptors are involved in this interaction.

کلمات کلیدی:

chicken, dopamine, food intake, ICV, histamine