Effect of long-term oral administration of extra thyroxine on oviductal expression of carbonic anhydrase and avidin-related protein-2 genes in broiler breeder hens

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Avian sperm are stored in the sperm storage tubules (SSTs) of the hen oviduct for a prolonged period. The impact of avidin-related protein-2 (AVRP2) and carbonic anhydrase II (CA II) in sperm viability in the SSTs has been suggested. The aim of the present study was to investigate the effect of oral administration of a high dose of thyroxine on the oviductal expression of AVRP2 and CA II genes in broiler breeder hens. The birds (n=17), housed in separate cages, were randomly allotted to two treatment groups to either zero (CON) or 0.03 mg thyroxine per day (T4 group) for 14 weeks. Feed and water were supplied according to the Cobb 005 standards (metabolizable energy: 2700 kcal/kg and crude protein: 13%). Blood samples were prepared seven times for determination of plasma triiodothyronine (T3) and T4 concentration. At the end of the treatment period, 2 hens were randomly selected -and killed to determine the expression of AVRP2 and CA II in the SSTs using the real time PCR procedures. Expressions of AVRP2 and CA II genes were influenced by T4 treatment where an increased expression of CA II was recorded for T4-exposed hens (P<0.05). However, expression of AVRP2 was not significantly different between the treatment groups (P>0.05).

Keywords: avidin-related protein-2, breeder hen, carbonic anhydrase, oviduct, thyroxine

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این صفحه به محتواي تایید و نمایه سازی مقاله در پایگاه استنادی سیویلیکا می‌باشد. در هر لحظه به منظور تایید اصلی این گویاها می‌توانید وضعیت ثبت مقاله را از طریق لینک فوق به صورت آنلاین کنترل نمایید.