

Effect of ovariectomy on daily energy requirement in beagle dogs

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Objectives: Ovariohysterectomy can result in significant weight gain in bitches fed ad libitum (Haupt, 1979), but when fed a restricted amount of food and exercised regularly ovarioctomized bitches may not gain weight (Leroux, 1983). The aim of this study was to determine the daily energy requirement (DER) in adult bitches to maintain optimal body weight (BW) after ovariectomy.

Materials and Methods: Four young adult 2 y -old female beagle dogs were ovariectomized. The bitches were housed together in their usual kennel. BW at the day of the sterilisation was (mean \pm SEM) 13.7 ± 0.8 kg, and was considered their optimal BW, based on the body condition score using a 9-points scale. Food consumption and BW were checked weekly during 32 weeks, starting 6 weeks before surgery (period I) until 26 weeks after surgery (period II). After surgery, the amount fed was reassessed and adjusted if necessary each week to maintain optimal BW by a reduction or an increase of 5% of the amounts offered. Dogs received a food for adult maintenance (Royal Canin Premium Croc, crude protein 24.0 %, fat 16.1 %, and 3730 kcal/kg as fed) during the whole study. Statistics were proceeded by analysis of repeated measurements with an autoregressive AR (1) structure (Proc Mixed, SAS).

Results: Mean BW during period I was 14.0 ± 0.3 kg. During period II, mean BW was 13.7 ± 0.1 kg which corresponds to optimal BW. Before ovariectomy, dogs received 171.6 ± 3.1 kcal/ kg BW^{0.75}. After surgery, energy offered had to be significantly ($p < 0.01$) decreased to maintain ideal BW. During period 2, dogs received 120.9 ± 2.5 kcal/ kg BW^{0.75}, which corresponds in a 30% decrease.

Conclusion: These results suggest that ovariectomy can induce a significant decrease of DER in female Beagle dogs. The underlying mechanism is unknown. A control of the food intake seems necessary to maintain ideal BW after gonadectomy.

References:

- Haupt K.A. et al., 1979. J Am Vet Med Assoc 174: 1083-1085.
Le Roux P.H., 1983. J S Afr Vet Assoc 54: 115-117.