

## **PROFIL REPRODUKSI PADA MARMOT (*Cavia porcellus* L., 1758) BETINA DI LINGKUNGAN TIDAK TERKONTROL**

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### **INTISARI**

Spesies hewan coba yang sama namun tinggal pada kondisi fisikokimia yang berbeda, menyebabkan adanya perbedaan kondisi biologis. Marmot (*Cavia porcellus* L., 1758) adalah hewan coba yang baik digunakan dalam penelitian reproduksi betina, namun di Indonesia masih belum banyak dikembangkan. Tujuan penelitian ini adalah mempelajari profil reproduksi betina marmot di lingkungan tak terkontrol sebagai upaya awal dalam rangka penyediaan marmot sebagai hewan coba yang terstandarisasi di Indonesia. Variabel yang diamati meliputi berat badan; siklus estrus; kadar estradiol; morfometri, berat dan/atau gambaran histologis organ genital internal; serta folikulogenesis. Marmot diperoleh dari pasar hewan komersial sebanyak 16 ekor. Marmot dianestesi dengan ketamin (50 mg/kg bb) untuk preparasi ulas vagina, kemudian dieutanasi dengan overdosis ketamin dan eksanguinasi. Siklus estrus diperkirakan dengan mengamati gambaran epitel sediaan ulas vagina. Folikulogenesis dan gambaran histologi uterus diamati dari sediaan histologis yang dibuat dengan metode rutin McManus dan Mowry (1960) dengan pewarnaan Hematoksilin dan Eosin. Dilakukan pencacahan dan pengamatan folikel primer, sekunder, tersier, atresia, dan korpus luteum; ketebalan dan struktur uterus. Estradiol diukur menggunakan Kit DRG® Estradiol ELISA (EIA-2693). Morfometri uterus didokumentasikan dengan kamera digital. Data individual dibandingkan antar sampel, data kelompok dibandingkan rerata dan standar deviasinya. Terdapat marmot yang mengalami NPO dan gestasi pada kelompok muda (bera badan). Terdapat kadar estradiol marmot umur sapih yang tidak terdeteksi. Berat dan volume ovarium tidak berkorelasi. Morfometri dan histologi uterus berbeda tergantung umur dan siklus estrus. Data cacah folikel yang diperoleh bersifat individual, tergantung umur dan siklus estrus. Umur marmot di lingkungan tak terkontrol tidak dapat ditentukan hanya berdasarkan berat badan, baik menurut perkiraan pedagang maupun referensi. Profil reproduksi marmot betina di lingkungan tak terkontrol tidak dapat ditentukan hanya dengan berat badan, kadar estradiol, morfometri dan berat organ genital, dan cacah folikel.

Kata kunci: marmot, reproduksi betina, siklus estrus, estradiol, ovarium, uterus, folikulogenesis.

***FEMALE REPRODUCTIVE PROFILE IN GUINEA-PIGS  
(*Cavia porcellus* L., 1758) RAISED IN UNCONTROLLED ENVIRONMENT***

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**ABSTRACT**

*Same animal species that lives in different physicochemical environment causing difference in biological condition. Guinea pig is preferable animal for female reproductive research because its biological feature, but in Indonesia this animal is not well supplied yet as experimental animal. The purpose of this research is to study about female reproductive profile of the guinea pig in uncontrolled environment in order to supplying guinea pig as standardized trial animals. Observed variable of this study are body weight; estrous cycle; estradiol level; morphometry, weight, and histological view of internal genitalia; and folliculogenesis. Sixteen guinea pig was obtained from animal market, and anaesthetized with ketamine for vaginal smear, then euthanized with overdose ketamine and exsanguinated. Estrus cycle observed from epithelial in vaginal smear. Folliculogenesis and internal genitalia mycroanatomy observed from histological slides prepared by McManus and Mowry method (1960) with Haematoxylin & Eosin staining. Primary, secondary, tertiary, and atretic follicle; also corpus luteum was counted. Thickness and structure of the uterus also observed. Estradiol level was obtained using Kit DRG® Estradiol ELISA (EIA-2693). Ovarium volume observed with calliper, uterus morphometry documented with digital camera. Individual data was compared between each sample and for collective data, mean and standard deviation was compared in each group. There were guinea pig that had NPO and gestation in young group. Estradiol level in one of weaned guinea pig was not detected. Ovarian weight and volume was not correlated. Follicle count, morphometry, weight, and/or histological view of the uterus was different depend on the ages and estrous cycle. Reproductive age of female guinea pig in uncontrolled environment could not be determined by body weight only. Female reproduction profile of the guinea pig associated with body weight that is: estrous cycle; estradiol level; morphometry, weight, and/or histological view of genital organs; also follicle count cannot be determined.*

*Keyword: Guinea pig, female reproductive system, estrous cycle, estradiol, ovarium, uterus, folliculogenesis.*