

**THE EFFECT OF ADMINISTRATION OF
EXTRACT FROM ARECA NUT SEEDS (ARECA
CATECHU L) ON THE FSH AND LH IN PROESTRUS
PHASE CYCLE BALB/C FEMALE RATS**

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pendahuluan

▶ **Outline presentasi**

- Ikhtisar – apa yang akan dipresentasikan (jenis studi dan hasil utama)
- Latar belakang masalah – data, metode, dan hasil riset sebelumnya
- Interpretasi data
- Simpulan – ringkasan hasil utama
- Saran dan implikasi

Background

- ▶ The use of areca nut (*Areca catechu* L), as a traditional medicine, has been widely used since hundreds of years ago.
- ▶ There are about 200 to 600 million people in the world consume areca nut during their lifetime. About 10% of the world's population consumes areca nut continuously

Background

- ▶ Areca nut is a potential source of natural antioxidants that may help for the prevention or development of diseases related to oxidative stress or may be a strong alternative to synthetic antioxidants.

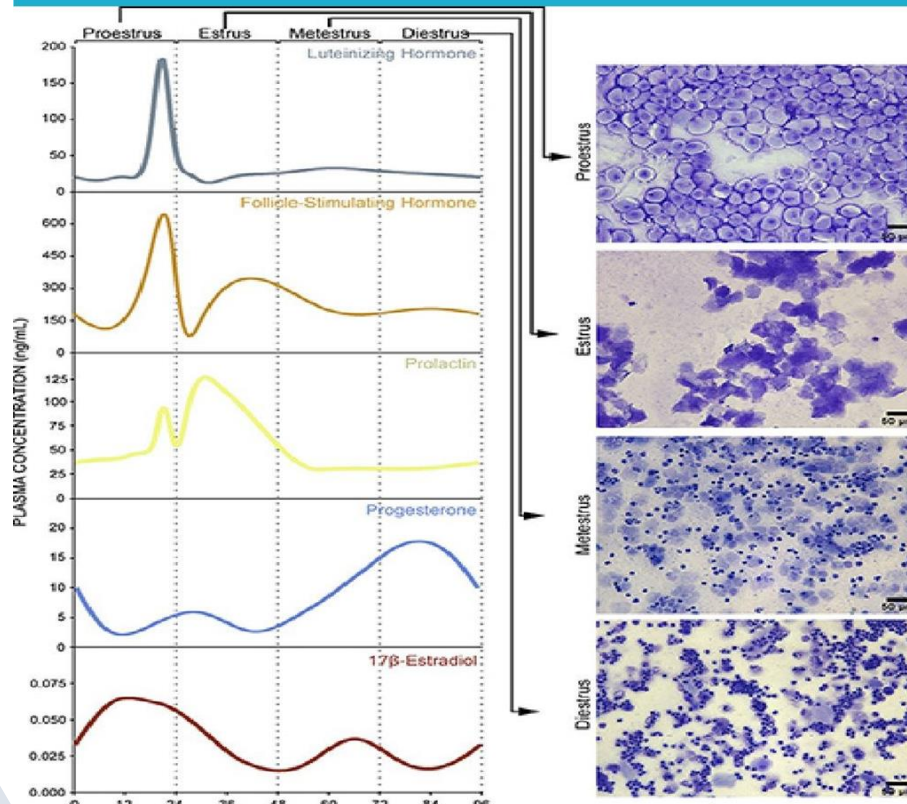
Results of previous research

- ▶ The effect of betel nut is mainly due to its active ingredient, namely arecholine.
- ▶ The results showed that arecoline has an antiproliferative effect by inhibiting growth and promoting cell apoptosis in accordance with the results of Sinha and Rao's (1985) research that arecoline from areca nut can cause damage to germ cell DNA.
- ▶ This allows the betel nut extract to exert an anti-ovulatory effect.

Background

- ▶ An anovulatory cycle is a menstrual cycle characterized by varying degrees of menstrual intervals and the absence of ovulation and the luteal phase. Without ovulation, there will be infertility.
- ▶ Several studies have not been able to answer whether betel nut extract affects the reproductive endocrine system. This study was conducted to determine the effect of betel nut extract on FSH and LH levels in the proestrus phase of female Balb/c mice

Hormonal status



- ▶ Figure: hormonal status according to the phase of the estrous cycle (Ashleigh C. McLean, 2012)

METHOD

- ▶ This type of research is experimental laboratories in vivo, with a randomized post test only control group design; to determine the effect of giving betel nut extract for 7 days in the experimental unit by measuring the variables carried out every day for three estrus cycles.
- ▶ The experimental procedure was carried out at the Laboratory of Molecular Biology and Immunology, Faculty of Medicine, Hasanuddin University, Makassar Indonesia.

INGREDIENT

- ▶ Areca nut seeds used are yellow areca nut, because this type is known to contain lower levels of arecholine compared to young areca nut. Areca nut is selected in good condition, fresh, not rotten or moldy.

Make betel nut extract

- ▶ The areca nut is peeled, crushed and mashed using a hammer and then dried in the sun to dry. Then 100 grams were weighed and 200 mL of water was added, heated until the remaining 100 mL of areca nut extract. Each 1 mL contains 2 grams of betel nut extract.

Test Animal



- ▶ The experimental animals used in this study were fifteen female Balb/c mice, aged 8 to 12 weeks with a weight of 20 to 40 grams, healthy condition and not pregnant.
- ▶ Mice were divided into 3 groups, each group consisted of 5 mice.

Pemberian ekstrak pinang peroral pada hewan



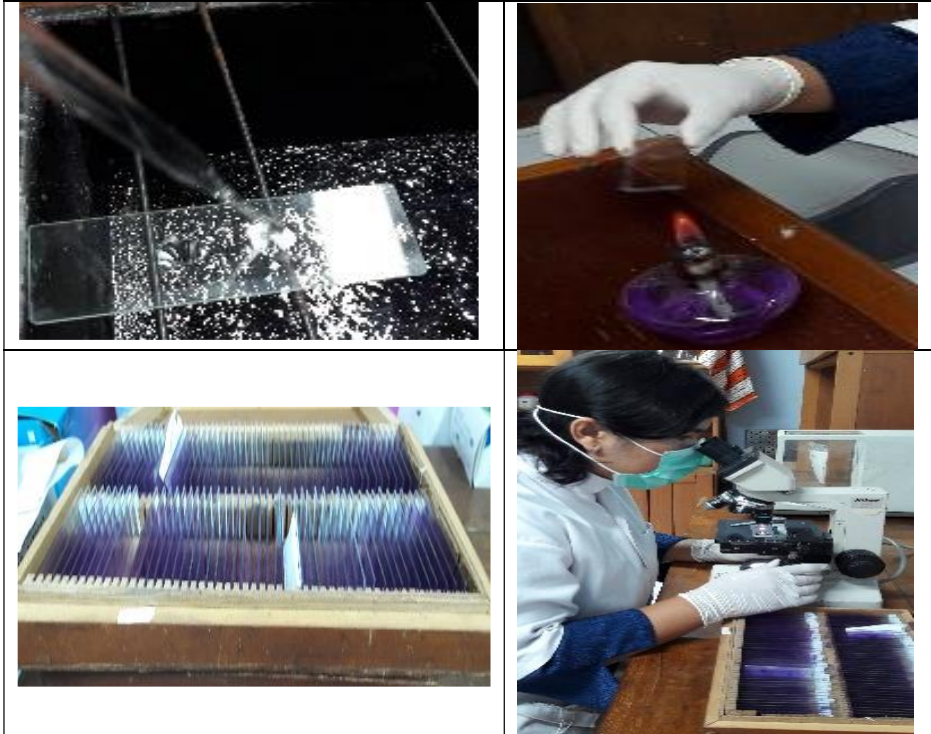
Eksperimen

Vaginal Cytological Examination

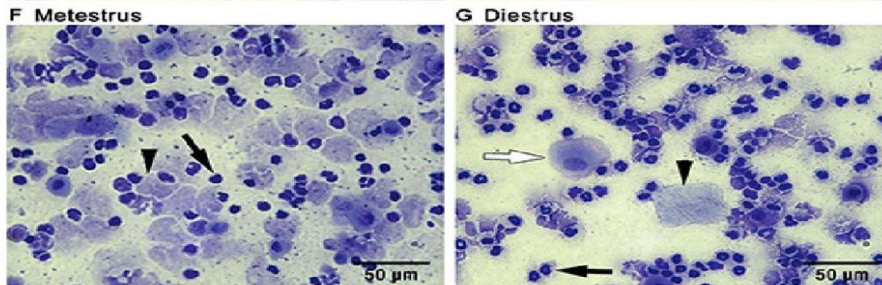
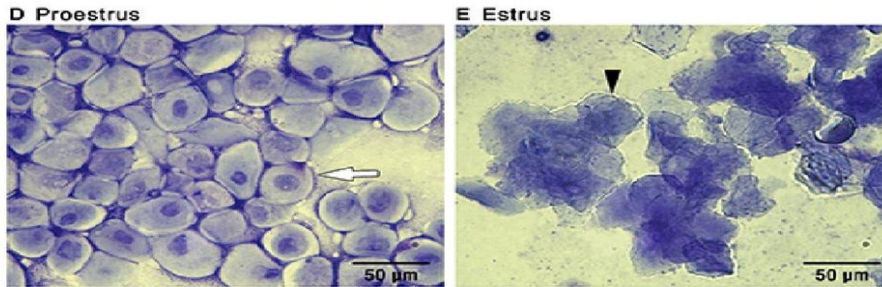
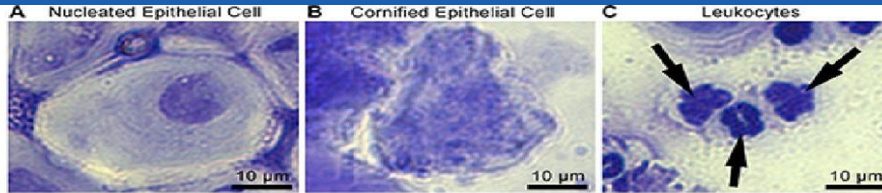


- ▶ Before and after administration of areca nut extract

Vaginal Cytological Examination

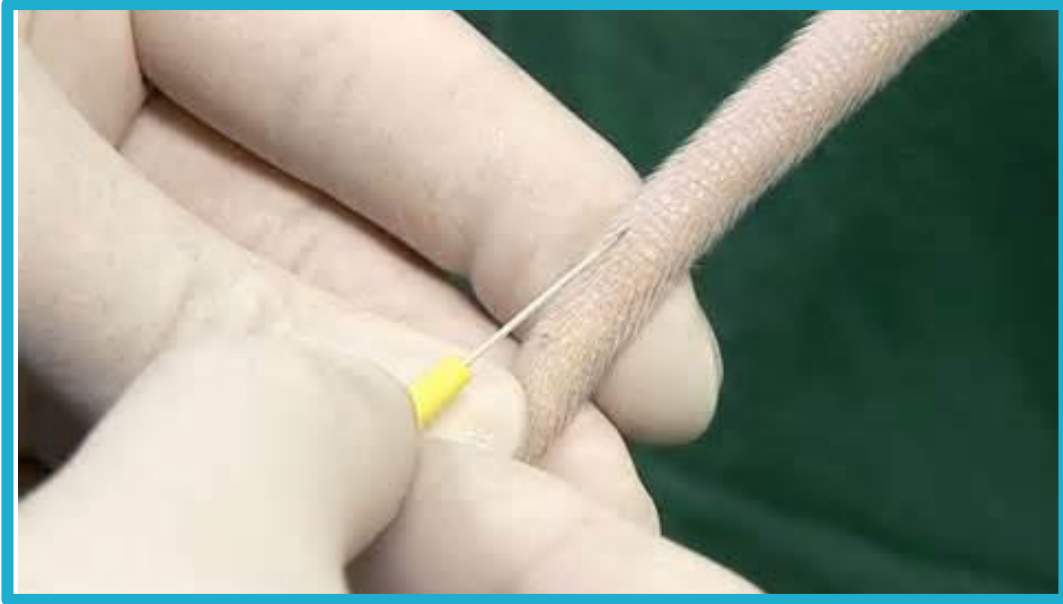


PHASE PROESTRUS



- ▶ The proestrus phase is defined by a cluster of spherical, nucleated epithelial cells.
- ▶ Vaginal examinations are carried out every day from 09.00 - 10.00 WIT.

Take blood



- ▶ The time for taking Balb/c serum was done when the estrus cycle was in the proestrus stage.

RESULTS

▶ TABLE 1. FSH LEVELS AFTER

Variables	Group	Mean	SD
FSH levels	K0	50.259	2,705
	K1	26.238	3,748
	K2	9,511	3.927

RESULTS

▶ TABLE 2. LH LEVELS AFTER TREATMENT

Variables	Group	Mean	SD
LH levels	K0	17.015	0.960
	K1	8.756	1.310
	K2	2.992	1.353

Kesimpulan

Saran

Thanks!

Any questions?

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