

IN VITRO INVESTIGATION OF FRESH JUICES OF RIPE ANANAS COMOSUS (PINEAPPLE), CARICA PAPAYA (PAWPAW) AND CITRULLUS VULGARIS (WATER MELON) FOR UTERINE CONTRACTILE PROPERTIES IN NON-PREGNANT RATS

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ABSTRACT

Isolated rat uteri were used to investigate the effects of fresh juices of *Ananas comosus* (Pineapple), *Carica papaya* (Pawpaw) and *Citrullus vulgaris* (Water melon) on the rat uterus. Each female rat primed with diethyl stilbesterol (1mg/kg) 24 hours and starved for 12 hours before experiment was euthanized by a blow on the head and exsanguinated. The lower abdominal region was opened and the two horns of the uterus were carefully isolated and transferred into a beaker containing De Jalon solution at 37⁰C and aerated. One of the horns was mounted in a 35ml organ bath also containing De Jalon solution at 37⁰C with adequate aeration. After equilibrating for 30 minutes the effects of Acetylcholine and fresh juices of *Ananas comosus*, *Carica papaya* and *Citrullus vulgaris* were tested separately and repeated in the presence of Atropine. Results obtained showed that *Ananas comosus* juice significantly (P<0.05) induced contractions of the uterine smooth muscles in a dose dependent manner, just like Acetylcholine, a standard muscarinic agonist, while ripe *Carica papaya* and *Citrullus vulgaris* fresh juices showed no contractile effect and did not block the effect of administered Acetylcholine. However, the contractions established by *Ananas comosus* could not be blocked by Atropine. The inability of Atropine to block the contractile effects of *Ananas comosus* juice suggests non-involvement of muscarinic receptors but leaves histaminergic receptors, oxytocin receptors and calcium channel alteration as possible mechanisms. The consumption of pawpaw and water melon juices may be encouraged at all stages in pregnancy while that of pineapple should be discouraged except at full term when its utero-tonic property can augment the action of oxytocin in labor and placenta removal after delivery.

KEYWORDS: Acetylcholine, *Ananas comosus*, *Carica papaya*, *Citrullus vulgaris*, Receptors, Uterine, Utero-Tonic