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NLM Citation: Drugs and Lactation Database (LactMed®) [Internet]. Bethesda (MD): National Institute of Child Health and Human Development; 2006-. Sauropus androgynus. [Updated 2024 May 15].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Sauropus androgynus

Revised: May 15, 2024.

Drug Levels and Effects

Summary of Use during Lactation

Sauropus androgynus (*Breynia androgyna*) is used as a food and medicinal plant in South and Southeast Asia. The leaves are used as a galactogogue in Indonesia and Malaysia where it is called katuk. It is high in provitamin A carotenoids, vitamins C and E and several minerals. It also has a high content of papaverine, polyphenols and flavonoids, especially quercetin and kaempferol. Animal studies indicate that *Sauropus androgynus* increased the expression of prolactin and oxytocin genes in lactating mice.[1] Human studies of *Sauropus androgynus* as a galactogogue contain serious design deficiencies and do not necessarily prove that *Sauropus* is a galactogogue.

Excessive ingestion of fresh *Sauropus androgynus* leaves can cause bronchiolitis obliterans, which is potentially fatal. Most patients were young and middle-aged women (mean age 39 years). Cooked leaves may not result in similar toxicity.[1]

Drug Levels

No components of *Sauropus androgynus* have been measured in milk after its ingestion, but some components have been measured after the ingestion of other foods.

Maternal Levels. Milk samples from 17 nursing mothers on uncontrolled diets were taken at 1, 4 and 13 weeks postpartum at times between 10 am and 1 pm. Average quercetin levels in breastmilk were 48 nmol/L at week 1, 60 nmol/L at week 4 and 51 nmol/L at week 13. Kaempferol concentrations ranged from 7.8 to 71.4 nmol/L, increasing from weeks 1 to 13 (and from weeks 4 to 13. Because of the uncontrolled diet and varying sampling times, the range of values among individuals was large.[2]

Quercetin was measured in the milk of 11 mothers after they received an onion soup that contained either 0.8 or 1 mg/kg of quercetin glucosides. A baseline milk sample was obtained after a 5-day low-quercetin diet, and 7 milk samples were obtained over the 48 hours following soup ingestion. Baseline total (from conjugated and unconjugated) quercetin in breastmilk averaged 45 nmol/L. An average peak milk quercetin level of 68 nmol/L was attained at an average of 11.9 hours after the soup meal. The average half-life of quercetin in breastmilk was 50.3 hours.[3]

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

A nonblinded, multicenter study in Indonesia gave healthy mothers of newborns either *Sauropus androgynus* (katuk) 300 mg tablets 3 times daily and a vitamin and mineral supplement once daily for 15 days (n = 48). A control group received only the vitamin-mineral supplement (n = 48). At the age of 18 or 19 days, the baby's weight before and after breastfeeding was measured for 24 hours to calculate breast milk volume. Milk samples were also analyzed for protein and fat content. The group that received the katuk tablets produced 264 mL of milk compared to 198 mL of milk in the group that received only the vitamin-mineral supplement. The increases in milk supply from baseline were 199 mL in the treatment gropy compared to 132 mL in the control group. These differences were statistically significant. There were no statistically significant differences in milk fat or protein content. This study suffers from a lack of a true placebo and blinding and unequal treatment of the two groups (intervention 3 times daily vs once daily).[4]

A nonrandomized, nonblinded study gave one group of mothers one capsule of *Sauropus* leaf extract twice daily for 30 days and another group of mothers nothing. At the end of 30 days, 70% of the mothers taking the *Sauropus* exceeded the milk production needed by their infants while only 6.7% of the untreated mothers did.[5] This study has so may design flaws that the results are meaningless.

A nonrandomized, nonblinded study in Indonesia gave 28 mothers of infants 3 to 30 days of age biscuits made of mung bean combined with star gooseberry (*Sauropus androgynus*). The control group of 27 mothers was given mung bean flour biscuits. The mothers ate 5 pieces of biscuits daily for 30 days, although this was not confirmed by investigators. No mention was made of whether breastfeeding was exclusive or some babies were given supplements. The intervention group had significantly more vitamin A and fat in their diet than the control group, but about the same caloric intake. Mothers reported dietary intake and infant weight. Infant weights were similar at the start of the study, but the infants in the intervention group had gained 75 grams (7.5%) more weight at the end of the study than in the control group.[6] With all the flaws in design and reporting, this study cannot be considered to be valid.

A randomized, nonblinded and non-placebo-controlled trial gave postpartum mothers (n = 30) a mixture containing *Sauropus androgynus* extract, papaya leaves, mung beans, tamarind and sugar. One bottle of 400 mL of the mixture was taken daily for 4 weeks postpartum. A control group (n = 30) received breastfeeding counseling only. The amount of breastmilk produced was estimated weekly for 4 weeks by weighing mothers before and after feeding, although it is unclear how this was done and by whom. Daily milk production in the third week (801 vs 656 mL) and fourth week postpartum (909 vs 757 mL) was significantly greater in the women who consumed the galactogogue mixture.[7] The control group had markedly more primiparous mothers (50% vs 17%) than the galactogogue group and were not provided a placebo, which might largely explain the results.

A nonblinded study in Indonesia randomized postpartum women with perceived low milk supply to either an herbal decoction containing 25 grams *Sauropus androgynus* (katuk) leaves, 10 grams *Coleus amboinicus* (torbangun) leaves and 5 grams papaya leaves (n = 60) or to 500 mg *Sauropus androgynus* extract (CV Al-Ghuroba, Indonesia; n = 60). Patients were to take the product and weigh their infant twice daily for 28 days. Maternal serum prolactin was measured on day 14 and 28. Breast milk volume and infant's weight increased on days 14 and 28, and serum prolactin levels in decreased in both groups; however, the changes were not statistically significant. Mean infant weights increased, with no difference between the two treatments. Two mothers in the combination group and 3 in the extract group had increases in aspartate aminotransferase and/or alanine aminotransferase.[8]

References

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Substance Identification

Substance Name

Sauropus androgynus

Scientific Name

Sauropus androgynus; Breynia androgyna

Drug Class

Breast Feeding

Lactation

Milk, Human

Complementary Therapies

Galactogogues

Phytotherapy

Plants, Medicinal