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Development of a male contraceptive from traditionally used Indian medicinal plants

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Abstract

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Objective: And though millions of people have used condoms to control conception, 70 million unintended births occur worldwide. Therefore, there is an immediate need to take a fresh look at an appropriate method nowadays to test human fertility. Most plants such as Azardirachta, Crotalania, Tryptigium, Gossipium Hibiscus, Mikania, Quassia, Striga or its compounds have been tested for effective and reversible contraceptives in India , China and other parts of the world. In the present study, 50% Citrullus, Martynia and Maytenus ethanolic extracts were prepared and administered orally for 60 days at different doses in fertile, stable adult male rats with the goal of searching for a new safe, inexpensive, orally effective, reversible male contraceptive from conventional medicinal plants. Watermelons (Citrullus spp.) are prostrate, generally branched, gently hairy, deeply and roundly indented vines with blue-gray-green leaves and branched tendrils. It produces one flower per stem node. A male flower is formed at most nodes but at every seventh or eighth node, a female flower or hermaphroditic flower emerges. Modern cultivars are monoecious but they are andromonoecious like certain old cultivars. The bulbs are less showy than the melon and cucumber bulbs, becoming a little smaller and lighter pink. Watermelons need a long , warm growing season to mature, and are usually grown for fresh, edible fruit flesh consumption. Unlike melons and pumpkins, the consumed portion is the placental, or endocarp, area. Consumption of the seeds is also essential in some areas. In case rice is scarce watermelon fruits, (Citrullus vulgaris) is often used to produce the liquor. The special method of processing the liquor starts by making holes in the fruit so that a large part of the flesh can be extracted, which is then combined by thap and the mixture is then reinserted into the fruit and the space is filled with the fruit segment that has been removed earlier. It is then used for fermentation for about three days as well. It is worth noting that, while the fruit is already attached to the palm, the entire process is finished. The fruit is separated from the plant after the specified time frame, the sealing is applied, and the beer is extracted. Citrullus is an African xerophytic genus and is diploid, with 11 pairs of chromosomes (2n = 22). The watermelon genome has just been sequenced. The number of species within the genus is contentious, ranging from five to seven, as there are usually low boundaries between species to cross. Three plants of xerophytic origin in southern Africa are not cultivated. The others are cultivated sparingly to large. Martynia's Flowers Annua L. Are tall, bell-shaped, and pink to white around 5 cm tall, in colour. The flower throat is purple, with yellow spots. When seed capsules are formed they are originally covered with a fleshy green membrane and a flattened beak that breaks as the "claws" are exposed to maturity. The mature seed is very hard, in color gray to black and 3 to 4 cm long. The capsules of the spine seed can injure livestock and native animals, and cause discomfort. The seed production is carried out by horses and tied to boats, clothing and equipment. Maytenus senegalensis (Lam.) Exell is an African shrub or tree which goes under the spike thorn common name. M. The distribution of senegalensis is wider, including tropical African regions, Arabia, Afghanistan and India. The family Celastraceae is the source of essential secondary bioactive metabolites. In

this botanical family, alkaloid amines such as cathine sometimes exist, as do, occasionally, benzylisoquinolide alkaloids. Celastraceae members are usually tanniferous, containing anthocyanins, often saponiferous, occasionally cyanogenic, and lacking iridoid compounds. Various plant parts of this genus are often used in herbal medicine to treat infectious and inflammatory diseases. Maytansine, a 19-member ansamacrolide chain, was first isolated from the Maytenus ovatus plant (now known as Maytenus serrata) in 1972 and created tremendous interest due to its extremely potent Cytotoxic effects in cell types, and their efficacy in animal tumor models. By then, a variety of maytansine analogs (termed ansamitocins originating from microbial sources) have been isolated, most of which vary in C3's ester substituents. The synthesis of maytansinoids gained significant interest in the organic chemistry world, as the initial separation procedures and natural sources produced only very small amounts of material. The medical historians have documented plants which can be used as contraceptives and abortive substances. The health of many of the herbal medicines is just relative, but due to their long and common use and their experience with these plants the public feels more confident. Therefore, traditional medications used as male contraceptives are still inadequate; any attempt to investigate the antifertility impact of any natural substance in males holds considerable scientific importance as this will also enable males to engage dramatically in population reduction programmes. The latest study also seeks to address some of the widely used plants which could be used as male contraceptives.

Materials and Methods: Weights of the body and organs; and weights of testis and other reproductive external organs have been reported. Sperm motility and sperm density were measured. For hematology, the blood was analysed. For testis and secondary reproductive organs, the amounts of protein, fructose, ascorbic acid, glycogen, and sialic acid were determined. This was dyed and studied under light microscope to detect effects on testes and sectioned sexual secondary organs. CPCSEA and the recommendations of the ethical committee of the Department of Zoology, Rajasthan University, and Jaipur were observed to retain the animals. The data is statistically evaluated by using the student's "t" test.

Results: The weight of testes and accessory reproductive organs in all groups treated with extracts was significantly reduced. The content of sialic acid, protein, ascorbic acid, and fructose declined considerably. The histological analyses indicate significantly reduced degenerative changes in the germinal epithelium, spermatocytes and number of spermatozoa.

Conclusion: It can be inferred that the androgenic depletion results of the therapy decreased the sperm count and the motility with the procedure resulting in a substantial decrease in the fertility of the rats treated extracts