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 ABSTRACT

 **Title of the proposed Research Work “In vitro effect of plant extracts against ovarian cancer.**

Caesalpinia bonducella belonging to the family Caesalpiniaceae is a prickly shrub widely distributed all over the world specially in India, Sri Lanka and Andaman and Nicobar Islands, in India specially found in tropical regions.(1.Hassan Bar) All parts of the plant have medicinal properties so it is a very valuable medicinal plant which is utilized in traditional system of medicine. The plant has been reported to possess antidiarrhoeal, antidiabetic, adaptogenic, anthelmintic, antiestrogenic, anti- inflammatory, antimalarial, antimicrobial, antifungal, antispasmodic, antioxidant, antiproliferative, antipsoriatic, antitumor, larvacidal, muscle contractile, hepatoprotective, anticonvulsant and antifilarial activities. Phytochemical analysis of seeds of Caesalpinia bonducella has revealed the presence of alkaloids, flavonoids, glycosides, saponins, tannins and triterpenoids.

 BIOGRAPHY

 For centuries our ancestors were using plants to treat various human diseases and cancer is one among them. Many medicinal plants have been reported to exhibit a variety of pharmacological and actions related to life functions namely antioxidant, antimicrobial, anticancer, antidiabetic properties and so on. Since plants acts as a store house of various phytochemicals they are capable of treating various ailments.These properties exhibited by plants. The biologically important phytochemicals play a pivotal role in drug discovery and the plant-derived bio molecules are recognized as an attractive and promising approach; possess high value in biomedical research for the development of drugs against cancer Interestingly in the recent past decades, plant that are medicinally important are been used to prepare drugs and the numbers are increasing comparatively. In the last twenty years a successful investigations are done on natural products especially to treat cancer much effectively in most parts of the world.

Cancer is referred to as the uncontrolled growth of abnormal cells anywhere in a body that can infiltrate normal body tissue and it is one of the leading fatal disease which leads to death worldwide,The different types of cancer existence with histopathology, genetic-epigenetic variations, and clinical outcomes are the challenges that persist in apprehending the mechanism of action of chemotherapeutics and in the development of innovative rehabilitations, Ovarian cancer cruelly affects the human population when compared with other gynaecological malignancies in worldwide. There is an urgent need for novel therapies to treat and prevent this life-threatening disease. Innovative research interest is illustrating its attention towards naturally-derived compounds as they are considered to have less toxic side effects compared to current treatments such as chemotherapy, laser therapy, radiotherapy, gene therapy, hyperthermia and surgery. Plants produce secondary metabolites which are being investigated for their anti-ovarian cancer activities leading to the development of new clinical drugs. Development anti-ovarian cancer compounds from the medicinal plants have been utilized as staple drugs for treatment and prevention, the new technologies are emerging to expand the area further. Increasing demand for plant-derived drugs is putting pressure on high-value medicinal plants and risking their biodiversity. Plant-derived anti-ovarian cancer agents are effective inhibitors of cancer cells lines, making them in high demand.

Ovarian cancer accounts for the highest tumour-related mortality among the gynaecologic malignancies. Plants that possess medicinal properties are gaining attention as they are enriched with various chemical compounds that are potential to treat various diseases.   C.bonducella is considered as wonder drug in the treatment of PCOS by many practitioners because of its ability to reduce the cyst and to regulate the menstrual cycle and alleviate the pain. For example, some studies have suggested that compounds found in turmeric, green tea, and garlic may have anti- cancer properties, and these substances may be incorporated into a patient’s diet or taken as supplements. So far there are no reports pertaining to the anticancer efficacy of Caesalphinia bonducella. Hence the present study was undertaken to envisage its anticancer potential.