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Review Article

A Brief Review Of Semecarpus Anacardium Linn

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ABSTRACT

The medicinal uses and toxic characteristics of Semecarpus anacardium Linn. The nut of this plant is utilized in traditional medicine for its therapeutic benefits, containing biflavonoids, phenolic compounds, bhilawanols, minerals, vitamins, and amino acids. Extracts from this plant have demonstrated efficacy against infections, tumors, and arthritis, with potential anticancer and anti-inflammatory properties. The oil of Semecarpus anacardium Linn. contains phenolic chemicals with antioxidant and anti-inflammatory effects. However, it is important to note that this plant also possesses toxic characteristics, capable of causing skin and ocular lesions, miscarriages, and dermatitis. Exposure to the plant's sap can lead to nephrotoxicity and painful micturition. Ongoing research is focused on identifying the bioactive components of Semecarpus anacardium nut oil for potential antibacterial properties.

INTRODUCTION

The Indian understanding of herbal treatments is gaining worldwide appreciation. Almost all therapeutic preparations used in Ayurveda are made from plants, either in their most basic form as unprocessed plant matter or in their most refined form as crude extracts, combinations, etc. globally. In Ayurveda, almost all medicinal preparations are derived from plants, whether in the simple form of raw plant materials or in the refined form of crude extracts, mixtures and so on. In other parts of the world, the term Complementary and Alternative Medicine (CAM) is used for various forms of traditional drugs. Complementary and Alternative Medicine (CAM) can be defined as any treatment used in conjugation (complementary) or in place of (alternative) standard medical treatment. In alternative medicine, medicinal plant preparations have found widespread use particularly in the case of diseases not amenable to treatment by modern method.[1] Semecarpus anacardium Linn., member of the Anacardiaceae family, is found in sub-Himalayan, tropical, and central India. The nut is also referred to as "marking nut" and "Ballataka" or "Bhilwa" in local dialects. In the traditional systems of medicine, it is given

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considerable priority and relevance.[2] The plant Semecarpus anacardium Linn. is well-known for its therapeutic benefits in the Siddha and Ayurvedic systems of medicine. The nut of this plant contains biflavonoids, phenolic compounds, bhilawanols, minerals, vitamins, and amino acids, according to chemical and phytochemical tests. Numerous nut extract products from this source are beneficial against a wide range of illnesses, including infections, tumours, arthritis, and more. However, isolating its active ingredient and figuring out the structure-function relationship can substantially benefit in understanding the pharmacological activity of its nut.[3]

PLANT DESCRIPTION:

Synonyms:-

Common name:

In Sanskrit:

Antahsattva, Arusharah, Aruskara (Arukara), Arzohita, Balla'ta (Bhallata, Ballata), Bhallataka (Bhalltaka), Bhallatakah, Viravrksa, Visasya;

In English:

Indian Marking Nut Tree, Marsh Nut, Oriental Cashew Nut;

In Hindi:

Bhela (Bhel), Bhelwa, Bhilawa (Bhilv), Bhilwa;

In Tamil:

Erimugi (Erimuki);

In Telugu,

Nallajeedi;

In Gujarati:

Bhilamu;

In Russian:

Semekarpus Anakardii.

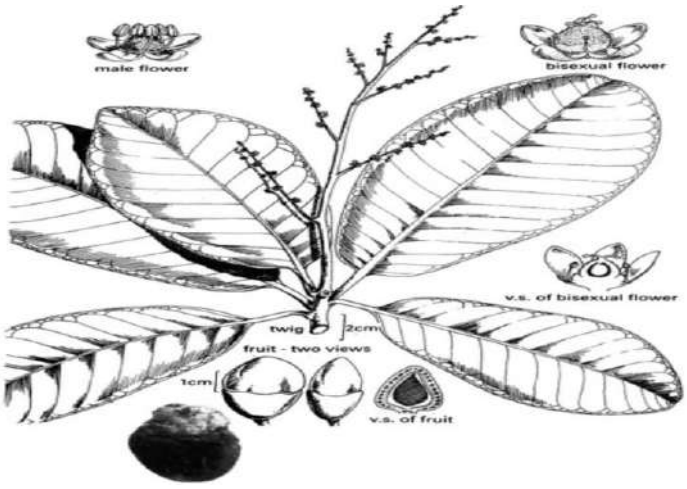


Fig No1. S.Anacardium With Flowers And Fruits

Table no 1 :Taxonomical classification

TAXONOMICAL CLASSIFICATION:	
Kingdom	Plantae
Subkingdom	Tracbeobionta
Super division	Spermatopbyta
Division	Magnoliopbyta
Class	Magnoliopsida
Sub class	Rosidae
Order	Sapindales
Family	Anacardiaceae
Genus	Semecarpus
Species	Anacardium

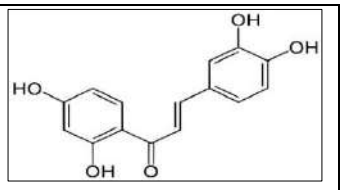
Figure no.2 Semecarpus anacardium Linn

There are several other names for Semecarpus anacardium Linn.f., such as marking nut tree or Oriental cashew in English, Bhela, Bhelatuki in Hindi and Beng, and Balia in Oriya. It is a medium-sized deciduous tree with a maximum height and girth of 12 to 15 metres and 1.25 metres, respectively. Rough and dark brown in colour, the bark is. The leaves are ashy grey or buff, obovate-oblong, rounded at the apex, coreaceous glabrous on the upper surface, more or less pubescent beneath, and have cartilaginous edges. They are 18–60 cm long by 10–30 cm wide. The petioles are 1.2–3.8 cm long, and the base of the leaf is rounded, cordate or cuneate, with occasionally a short auricle. There are 12–25 pairs of major nerves that form a broad angle with the coastline. The flowers are lanceolate, pilose, and greenish-white with calyse segments that are about 1 mm long. They are subsessile, fascicled in pubescent panicles, and have short pedicles. The ovate, sharp petals measure 4-5 mm length and 2 mm wide. The ovary in female flowers is subglobose, thickly pilose, and capped with three styles while the ovary in male flowers is simple and hairy. Drupes are 2.5 cm long, obliquely ovoid or oblong, smooth and glossy, and black when ripe; they are sitting on a fleshy receptacle that is smooth and yellow when ripe and measures about 2 cm long. The fruit is spicy and sour-like with an unpleasant aroma. Anacardic acid, cardol, catechol, anacardoside, fixed oil, semecarpol, bhilawanol, biflavonoids, biflavones, etc. are some of its active ingredients.[4]

PHYTOCHEMISTRY:

Phenolic chemicals make up the majority of Semecarpus anacardium Linn. oil. Phenolic substances oxidise into quinones when exposed to air. Holding the oil under nitrogen will stop the oxidation process. Bhilavanol A (monoenepentadecyl catechol I), Bhilavanol B (dienepentadecyl catechol II), andanacardoside (glucoside) are the three main phenolic compound. Bhilwanol from organic goods was shown to be a combination of ursuhenol's cis- and trans-isomers; this molecule mostly consists of 1,2,dihydroxy-3(pentadecadienyl 8′,11′) benzene and 1,2,hydroxy- 3(pentadecadienyl 8′) benzene. Anacardoside, semecarpetin , nallaflavanone , jeediflavanone , semecarpuflavanone , galluflavanone , anacarduflavone mono-olefin I, diolefin II, bhilawanol-A, bhilawanol-B, and amentoflavone tetrahydroamentoflavone semicarpol, anacardic corrosive, tetrahydrobustaflavone, O-trimethyl biflavanone A1(21), O-trimethyl biflavanone A2,119] O-tetramethyl bifl avanone A1, Ohexamethyl bichalcone A, O-dimethyl biflavanone B, O-heptamethyl bichalcone B1, O-hexamethyl bichalcone B2, O-tetramethyl biflavanone C., phenolics.[5]

Table no.2 Isolated constituents

Butein	Oil and Seeds	Phenolic	1,2-dihydroxy-3(pentadecadienyl-8,11)benzene,1,2-dihydroxy-3(pentadecadeinyl-80,110)-benzene	

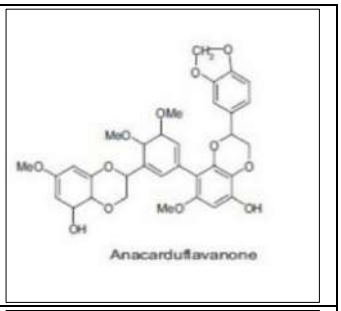
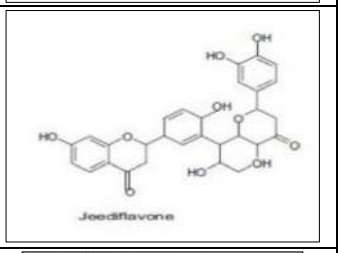
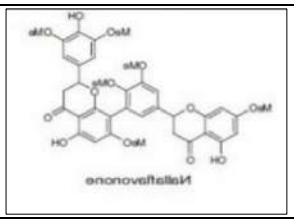
Anacarduflavanone	Nut shell	Ethanolic	Acetone	
Jeediflavone	Nut shell	Alcoholic	n-hexane	
Nallaflavonone	Nut shell	Alcoholic	Acetic anhydride, Pyridine	

Table no.3 Nutrients composition

Moisture,g	3.8
Energy,Kcal	587
Protien,g	26.4
Fat,g	36.4
Carbohydrate,g	28.4
Fibre.g	1.4
Ash,g	3.6
Calcium,mg	295
Iron,mg	6.1
Phosphorus,mg	836
Zinc,mg	-

PHARAMACOLOGICAL ACTIVITIES:

A number of disorders have been treated with carpus anacardium. Numerous clinical and pharmacological research have been conducted on various Siddha formulations and on the various components of Semecarpus anacardium.

Serankottai nei, a Siddha concoction of S. anacardium nut extract, is used to cure a number of illnesses. The following is how the medication Serankottai nei is made: Cow's milk, ghee, and nuts are the primary components of S. anacardium.The medication was made by boiling 200 g of almonds with 500 cc of milk. 500 ml of milk was added to the boiled nuts after decanting the decoction, and the combination was then heated again for a while.

The decoction was collected, and the procedure was repeated with milk. Ghee was added to all three components of the milk nut decoction before being cooked until dried out, filtered, and stored. Since olive oil is insoluble in water, it was used as the drug's delivery system.[6]

ANTICANCER,ANTINEOPLASTIC, CYTOTOXIC AND CYTOSTATIC ACTIVITY ;

Semecarpus anacardium has being studied for its potential to treat cancer. Various marking nut formulations have been utilised in clinical settings with positive outcomes, particularly for cancer [7] of the oesophagus, liver, urinary bladder, and leukaemia. The Pericarp oil's anticancer properties were discovered through inquiry [8]. The S. anacardium nut's flavonoids have the capacity to Can guard against certain tumours [9]. A chloroform extract called SAN-AB When given in a diluted form and contains the pericarp and seed of the entire nut, It is harmless when using peanut oil. In the Yoshida sarcoma (rat ascites tumour), it demonstrated a distinct effect on cancer cells. S. anacardium nut extract demonstrated significant anticancer effects against Hepatocellular carcinoma caused by AFB1. The negative impacts brought on by,With reference to biochemical data, AFB1 were reverted to almost normal levels. dimensions and histological patterns [10]. Additionally, the serum alpha protein level was returned to a nearly normal level. after being administered the S. anacardium nut milk extract, levels. This provided the supporting evidence to utilise nut milk extract from S. anacardium as An antitumor agent [11]. Following the administration of the medication, the decreased levels of non-enzymatic antioxidants (uric acid, vitamin C, vitamin E, glutathione, total thiol, non-protein thiols, and cytochrome P450) were restored to normal levels. The Negative consequences linked to lower antioxidant levels includeS. anacardium nut extract regulates.As a result, the antioxidant properties of S. anacardium nut extract and the induction of HCC by AFB1 make it a possible anticarcinogenic agent against radiation damage.Antioxidant defence mechanism of living organisms [12] .In 1999, Premalatha et al. assessed the effects of the medication S.Aflatoxins B (AFB1) and anacardium extract's effects on hepatocarcinogenesis in adult With reference to the tumor-marker enzymes (lactate), albino male Wistar rats Alanine aminotransferase, aspartate aminotransferase, dehydrogenase,-glutamyl transpeptidase and alkaline phosphatase). Implementation of S.These enzyme levels were recovered by anacardium nut extract.To values close to normal.In addition to inhibiting these enzymes, flavonoids in nut extract also have a particular inhibitory effect on the production of AFB1-DNA adducts [13].They demonstrate their capacity to pay for defence against the emergence of AFB1—Promoted tumour growth in species that are vulnerable [14]. Bhilawanols,Which was most concentrated in the S cell membrane fraction. Anacardium extract may have an impact on membrane activity. The Extract would alter the membrane's permeability, altering cellular Growth [15], which could explain its anticancer properties. The anticarcinogenic effects of S. anacardium nut extract may be mediated through the inhibition of AFB1 activation and by interactions with microsomal- activated elements. This gives the substance its capacity for chemoprevention. against HCC of S. anacardium nut extract Male albino rats were used to test the effect of S. anacardium nut milk extract on the host detoxification system in hepatocellular carcinoma caused by AFB1. Evidently, S. anacardium The antitumor activity of nut milk extract is enhanced by both phase I (NADPH-cytochrome P450 reductase, cytochrome b5, cytochrome P450,Phase II (NADH-cytochrome b5 reductase, aniline hydroxylase, and (UDP-glucuronyl transferase and glutathione-S-transferase) enzymes to Close to typical values[16].The stimulation of hepatic biotransformation enzymes and the enhancement of the antioxidant capacity of S. anacardium nut extract operate as mediators of the anticarcinogenic effectiveness of the substance against AFB1-induced hepatocarcinogenesis. Carcinogen's oxidative metabolism [17]. Lysosomal membrane stabilisation and modified glycoprotein S. anacardium nut extract's profile

may improve for its anti Cancer resistance to male hepatocellular carcinoma brought on by AFB1 Albino rats[18]. Inhibitory to oxidative ,The nut extract's capacity to contribute to the stabilisation of lysosomal Membranes The antitumor activity of S. anacardium chloroform extract against a variety of experimental cancer systems, including leukaemia L1210, P388, and others, demonstrated the extract's ability to act as an antineoplastic agent[19,20]. glioma 26 and progressed P388, B16 melanoma. It was discovered that S. anaca rdium nut extract was efficient in important enzymes (significant decrease in glycolytic enzyme activity) Hexokinase, phosphoglu-coisomerase, and aldolase are three enzymes that simultaneous increase in gluconeogenic enzymes (glucose-6-phosphatase) (fructose 1, 6-diphosphatase]) connected to the breakdown of carbohydrates in Dimethyl benzanthracene-induced Sprague-Dawley mammary carcinoma rats[21]. Accordingly, S. anacardium nut extract has a considerable impact on mitochondrial energy generation and may be a possible anti-cancer treatment for breast carcinoma [22,23]. Immunological insufficiency linked with breast cancer (depleted levels of IgG, IgA, IgM, and IgI) was restored to normal levels. The drug's possible antineoplastic properties may be explained by its immunomodulatory activity .Several studies have documented the cytostatic action of S. anacardium extracts. At a dose of 50 mg/kg in one experiment, the chloroform extract of the nuts demonstrated activity of 150% T/C in a P388 test system in mice . In another investigation, Eagles 9 KB nasopharynx cancer cell cultures were examined with a portion of the nuts' aqueous methanolic extract, which produced an IC50-value of 2.3 g/ml. The majority of this percentage were pentadecylcatechols. However, up to an 80 mg/ml dose, these pentadecylcatechols did not exhibit any action in mice performing in vivo P388 leukaemia tests [24].With IC50 values of 1.6 g/ml, the nuts of S. anacardium showed the most cytotoxic effect [25].In human leukaemia cell lines, S. anacardium oil produced in accordance with Ayurvedic principles demonstrated potent cytotoxicity. The phenolic components of S. anacardium oil, particularly the biflavones, are thought to be responsible for its cytotoxic activity against human leukaemia cells [26]. The herbal remedies Semecarpus lehyam and rasagenthi lehyam, both of which contain S. anacardium as one of their constituents, can be used successfully as complementary and alternative treatments for treating breast cancer and prostate cancer, respectively[27,28].

ANTIINFLAMMATORY ACTIVITY :

Ramprasathet et al. looked into the adjuvant arthritis development and the anti-inflammatory effects of SA nut extract. The paw edoema and cotton particle granuloma caused by carrageenan were considerably reduced by semecarpus anacardium. These findings demonstrate SA Linn's high anti-inflammatory activity and therapeutic usefulness. Nut extract is comparable to indomethacin in its ability to combat all stages of inflammation[29] Tetrahydroamentoflavone (THA), a biflavonoid, was found to be the main active ingredient in the SA extract by Salvem et al. THA inhibited cyclooxygenase (COX-1)-catalyzed prostaglandin production in vitro by 40.5% at 100 g/mL for COX-1 and 2 and 29.5 M for COX-1, respectively. THA had a dose-dependent antiinflammatory effect in the in vivo carrageenan-induced paw edoema experiment, and its activity was comparable to that of ibuprofen[30]. Using the method of carrageenan-induced paw edoema in albino rats, Bhitre et al. synthesised the methanolic, ethanolic, chloroform, ethyl acetate, and petroleum ether extracts of fruits of SA and investigated the antiinflammatory efficacy. Significant anti-inflammatory activity in the extract was comparable to that of the gold standard aspirin[31]. Both immunological and

non-immunological origins of SA's anti-inflammatory effect were reported by Satayavati et al. and Bajpai et al[32]. Singh et al. examined the ability of SA extract to reduce the production of pro-inflammatory cytokines. Mononuclear cells from synovial fluid and peripheral blood from healthy people and rheumatoid arthritis (RA) patients were used to test the in vitro antiinflammatory effects of crude ethanolic extract from SA nuts. TNF-alpha and IL-6 production, both at the protein and mRNA levels, were unaffected by Semecarpus anacardium extract, which reduced the synthesis of proinflammatory cytokines IL-1beta and IL-12p40 both spontaneously and in response to LPS. Additionally, NF-kappaB and AP-1 nuclear translocation caused by LPS was inhibited by the crude extract; NF-kappaB was inhibited by blocking I kappa B phosphorylation. Additionally, the extract reduced the formation of nitric oxide when LPS was triggered in the murine macrophage cell line RAW 264.7[33] . Premlatha et al. found that nut extract detoxified a potent hepatocarcinogen aflatoxin B1 and caused its metabolites to be excreted in urine. They also reported that the extract had immunomodulatory potency, antioxidative, membrane stabilising, tumours marker regulative, glucose level restoring, and mineral regulation properties[34]. In a another instance, they described how extracts treated alterations in collagen and glycosaminoglycan metabolism in adjuvant arthritic Wistar mice. When SA was administered to arthritic animals, the levels of connective tissue-degrading lysosomal glycohydrolases such as acid phosphatase, beta-glucuronidase, beta-N-acetyl glucosaminidase, and cathepsin-D returned to nearly normal levels. In adjuvant arthritic rats, Ramprasath et al. discovered that nut milk extract modifies levels of reactive oxygen/nitrogen species and the antioxidative system. On treatment of the medicine at 150 mg/kg body weight/day, it was discovered that the levels of lipid peroxides (LPOs), ROS (superoxide radical, hydroxyl radical, H2O2, and myeloperoxidase), and RNS (nitrate + nitrite) that had been reported in adjuvant arthritic mice had dramatically diminished. The altered antioxidant defence components were nearly restored to normal levels after SA therapy. These facts imply that the SA medicines are mostly used to treat and prevent abnormalities brought on by arthritis[35]. An indigenously modified Siddha formula known as Kalpaamruthaa (KA) is made up of SA nut milk extract, fresh dried Emblica officinalis (EO) fruit powder, and honey. It was discovered that kalpaamrutha was nontoxic up to a dose of 2000 mg/kg. Additionally, KA has been noted for its strong analgesic, antipyretic, antioxidative, and non-ulcerogenic characteristics. In the adjuvant-induced arthritic rat (AIA) paradigm, Mythilypriya et al. investigated the antiinflammatory efficacy of SA in relation to the inflammatory mediators (lysosomal enzymes) and its impact on proteoglycans. When arthritic rats were compared to control rats, the levels of plasma protein-bound carbohydrate components of glycoproteins were found to be higher in the arthritic rats[36].

3. Antioxidant activity:

Reactive oxygen species (ROS) are harmful to cells, thus antioxidants work to combat them and shield the cells from their effects. Antioxidants control the production of ROS during cellular metabolism by removing them. Oxidative stress is caused by any circumstance that raises the levels of ROS. Oxidative stress is a major risk factor for many human diseases, including cancer. Antioxidants may therefore be thought of as potential anticarcinogens because they can lessen oxidative stress, which can either delay or stop the development of cancer.Antioxidants are abundant in fruits and vegetables. Additionally, it is recognised that a variety of phytochemicals found in medicinal plants have antioxidant properties.

Determining the antioxidant activity of the aqueous extract of nuts from the medicinal plant Semecarpus anacardium in AKR mouse liver during lymphoma development was the purpose of the current investigation. The activity of the antioxidant enzymes catalase, superoxide dismutase, and glutathione transferase were used to measure antioxidant function. The impact of S. anacardium was further investigated by tracking the activity of the anaerobic metabolism enzyme lactate dehydrogenase (LDH). As a tumour marker, LDH activity is used. As mouse lymphoma progressed, antioxidant enzyme activity rapidly reduced. LDH activity, however, gradually increased. Antioxidant enzyme activity increased after the administration of S. anacardium's aqueous extract to lymphoma-transplanted mice, but LDH activity sharply decreased, suggesting reduced carcinogenesis. Regarding its impact on antioxidant enzymes and LDH in the liver of mice with growing lymphomas, the aqueous extract was discovered to be more efficient than doxorubicin, a traditional anticarcinogenic medicine[37].

4. Antimicrobial activity:

At 1:2 dilutions in dimethyl sulphoxide, the essential oil from S. anacardium nut oil demonstrated promising antibacterial action against B. subtilis, S. aureus, P. vulgaris, E. coli, A. niger, A. fumigates, C. albicans, and C. glabrata. However, S. aureus (12.00.05 mm), a gramme positive bacterium that is known to play a substantial role in skin illnesses, was remarkably inhibited by essential oils from nuts. When compared to the common medicine flucanozole (12.00.05 mm), oils among fungi revealed a substantial inhibitory zone in Aspergillus niger (13.00.01 mm). None of the tested strains were inhibited by the control treatment (DMSO). Theresults of this study indicate that Semecarpus anacardium nut essential oil is a source of biologically active chemicals that may someday prove to be effective natural antibacterial agents. Additional research is being done and will be presented later on the chemical characterisation of the bioactive components of Semecarpus anacardium nut oil using GC-MS[38].

5.Antispermatogenic effect :

Feeding on SA extracts resulted Reduced numbers of spermatogenesis cells and spermatozoa in male albino rats show an anti-spermatogenic impact. Sharma investigated if alterations in androgen metabolism may be to blame for the decrease in sperm density in cauda epididymides. Meiotic and postmeiotic germ cells were extremely sensitive to androgen levels, and changes in androgen levels in the testes may have an impact on how spermatocytes develop into spermatids[39]. According to Narayan, the SA aerial part's aqueous extract has spermicidal properties. Spermatogenic arrest occurs in albino rats after administration of an ethanolic preparation of the SA fruit. The sperm motility and density were found to have significantly decreased. The amount of primary spermatocytes, secondary spermatocytes, and spermatids were all significantly decreased as a result of the fruit extract feeding[40]. These findings unequivocally demonstrate SA's anti-spermatogenic properties. Male albino rats fed SA extract had a decreased quantity of spermatogenic cells and spermatozoa, indicating that this had an anti-spermatogenic impact[41].

6.Anti-tuberculosis activity :

Singh conducted a study to isolate, characterise, and assess the bioactive components of SA nuts that were extracted using GC-MS.SA nuts were solvent extracted using petroleum ether, ethyl acetate, methanol, and then water.The bioactivity of each extract was examined in relation to the potential pathogen Mycobacterium tuberculosis.During an in vitro bioassay, water extract demonstrated potential with a MIC of 6.25 g/ml against M. tuberculosis. During in vitro

bioassay experiments, nuts extract displayed anti-tuberculosis activity[42].

7.Antiatherogenic effect :

The key factor causing the development of atherosclerosis Is an imbalance between pro-oxidants and antioxidants. Antioxidant therapy is helpful in preventing such a disease. The antioxidant property of Semecarpus anacardium (SA) is demonstrated. At low concentrations, it has the ability to scavenge superoxide and hydroxyl radicals. It was also shown that SA prevented the atherogenesis process, which is started by the peroxidation of lipids in low-density lipoproteins. Sharma et al. showed that SA has cardiac action because it generally lowers tissue and serum hyperlipidemia by preventing the absorption of intestinal cholesterol and disposing of it peripherally, which has anti-artherosclerotic properties[43]. It's probable that the antioxidant, anticoagulant, hypolipidemic, platelet anti-aggregation, and lipoprotein lipase releasing capabilities of this substance contribute to its positive antiatherogenic effect. The stimulation of lipoprotein lipase activity has also been proven to have a role in the hypotriglyceridemic effect's mechanism.

8.Nootropic Effect :

Acetyl choline esterase is effectively inhibited by Semecarpus anacardium, extending the half-life of acetylcholine. SA has therefore been demonstrated to be helpful in enhancing cognitive function[44]

9.Hepatoprotective effect :

The marker enzymes brought on by lead acetate were expressed at lower levels in the liver when S. anacardium was added. Because of its antioxidant properties, this substance may have hepatoprotective effect[44].

10.Cardioprotective Effect:

Asdaq examined the rat myocardial injury caused by isoproterenol and the cardioprotective effects of the hydroalcoholic extract of S. anacardium nuts.In comparison to isoproterenol control, mice treated with low and high dosages of Semecarpus anacardium nut extract had decreased blood CK-MB activities and increased CK-MB activities in heart tissue. Both low and high doses of Semecarpus anacardium nut extract significantly decreased blood LDH activity, however neither dose had any effect on heart tissue when compared to isoproterenol as a control.As a result, SA may be able to mitigate the myocardial damage caused by isoproterenol in rats, according to Asdaq SMB and Chakraborty M's 2010 study[45].

11.Antihelmintic activity:

Pal has investigated the anthelmintic effects of several Semecarpus anacardium nut extracts on adult Indian earthworms (Pheritima posthuma). They discovered that Semecarpus anacardium extracts in petroleum ether and chloroform exhibit better anthelmintic action than those in ethanol and water solution[46].

Toxic characteristics:

S. anacardium has been shown to have certain poisonous characteristics in addition to its extensive list of therapeutic virtues. Malingerers typically employ the potent irritating characteristics of pericarp juice to cause ocular and skin lesions, as well as to induce miscarriages[47]. Dermatitis can develop in people who prepare the oil, apply it to garments while performing laundry, or wear the marked clothing. There are two main dermatitis patterns[48]. Dermatitis of the hands and face can occur in those who take nut formulations medicinally. The legs and feet may also be harmed if the nuts are pounded with a pestle in a mortar held between the knees. People wearing the specified apparel are involved in the second clinical pattern. exposure to the S sap. Skin lesions and anuria developed as a result of anacardium, which was then cortical necrosis that has spread. The sap's nephrotoxicity mechanism may phenolic constituents to blame[49]. When S. anacardium was applied externally, it caused extremely painful micturition, scarlet, bloody

urine, and painful bowel movements[50]. Patients receiving S. anacardium treatment also reported experiencing some adverse effects[51,52]. These side effects were linked to the dosage of the medication given to the patients in each instance. They claimed that 17 out of 70 individuals experienced medication responses. They typically manifest as itching in the dorsal areas of the hands and forearm, which is sometimes accompanied with reddish maculo-papular rashes.[53]

CONCLUSION:

Semecarpus anacardium has a number of therapeutic uses. Numerous actions, including antiatherogenic, anti-inflammatory, antioxidant, antibacterial, anti-reproductive, CNS stimulant, hypoglycemic, anticarcinogenic, and hair growth promoter, are demonstrated by the fruit and nut extract. Studying the plant's traditional applications and then validating its activity and method of action will require more work.

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