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Various Phytochemicals Present in Maida Lakdi Litsea glutinosa (Lour) acts in the Management of Waja ul Mafasil (Arthritis) in a Clinical Trials

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Abstract:
Litsea glutinosa (Lour) Maida Lakdi is an evergreen tree belonging to family Lauraceae it is a native to India.[1,2,3] Ethinomedically the bark is used by the traditional practitioners as a demulcent, emollient and in the treatment of diarrhea and dysentery. According to ancient Unani classical text books by our ancient scholars which was used for mostly bony diseaseslike Fracture (kasar), Joint pain(Hudaar), gout(Naqras), sciatica(Irqun nasa), anti inflammatory(Muhalil e Auram), spacity of nerves(Tashannunj e Asab), nervine tonic(Muqavi e Asab)etc. and now a days further activities were found by various scientific studies paving a way for multi functional activities like Anti oxidant , analgesic anti inflammatory, anti pyretic, anti microbial, anti bacterial, anti fungal anti helminthic, wound healing, hepatoprotective, nephro protective, anti infertility,anti hyperglycemic and anti hyperlipidemic.

Aim:

The aim of present study is to know the different chemical constituents acts in the Management of Waja ul Mafasil (Arthritis) in a Clinical Trials.

Introduction: Maida lakdi Litsea glutinosa(Lour) is an endemic and threatened aromatic medicinal tree which belongs to the Lauraceae family and found throughout India. In India this genus is represented by nearly 50 species. Decoctions of the dissimilar parts are useful to heal burns, sprains, indigestion, cough, infection and diarrhoea. The active chemical constituents Aporphine Alkaloids like Boldine & Laurolistine, flavanoids, terpines, lignans phytoestrogens, Piperidine,Coumarin,Terpenoids,&Steroids plays an important role as an analgesic anti inflammatory & Osteoprotective effects. Hence I went through all modern articles & Journal to find out scientific evaluation of Maida Lakdi (Litsea glutinosa Lour) in the management of Waja ul Mafasil(Arthritis) in a clinical study.

Advance pharmacological action of Litsea glutinosa Lour:

1. Study of Analgesic and Anti inflammatory Activity of Litsea glutonisa (L) Extract on Swiss Albino Mice4,5

The aim of the study was designed to evaluate analgesic and anti inflammatory potential of the ethanolic extract of the bark of the plant by the method Analgesiometer (or) Eddy's hot plate and carrageenan induced paw oedema test.

2. Anti Bacterial & Antioxidant Activities of stem bark essential oil[6].

The essential oil from stem bark of Litsea glutinosa (L) which is useful as the demulcent and mild astringent for diarrhoea and dysentry. It is useful arousing sexual power, relieving pain, aches, sore eyes, skin infection, gouty joints, wounds and also for producing a soothing effect on the body. Therefore the chemical composition of the stem bark essential oil evaluate the antibacterial and antioxidant activities.

3. Hepatoprotective & Neprhro protective activities of Litsea glutinosa (L) against Carbon tetra chloride (CCL_4) induced toxicity in WA rats. Histopathological studies Indicated in the control group exposed to CCL_4 can result in hepatic steatosis, centrilobular necrosis and cirrhosis in the liver and acute tubular necrosis in the kidney. The Litsea glutinosa (Lour) & Liv 52 treated groups showed reduced necrosis, steatosis and normal architecture observed in the liver & kidney tissues indicating the regain of normal functional improvement of Hepatocytes & regeneration of the parenchymal cells.

4. Anti hyperglycemic and Anti hyperlipidemic effects of Litsea glutinosa bark[7]:

Aporphine alkaloids are responsible for anti hyperglycemic and anti hyperlipidemic effects along with Laurolitsine and boldine were found to have the ability of lowering glucose uptake.

5. In vitro cytotoxicity activity of BEE(Stem Bark ethanolic Extract)[8]:

It was measured against breast adenocarcinoma, prostate, and colon carcinoma cell lines. In the acute toxicity tests, rats received oral doses of BEE as 1000, 2000, and 3000 mg/kg body weight. Mortality, signs of toxicity, body weight, food consumption, and gross findings were observed for 14 days. Blood samples were collected from anesthetized animals and used for hematological and biochemical parameters. Histopathological study was performed using liver and kidney samples. Results: The BEE does not show significant cytotoxic effect against the tested cell lines up to the range from 5 to 320 µg/ml. In acute toxicity study, also lethality was not observed up to 3000 mg/kg b.w. No significant differences were noticed in body and organ weights and histopathology examinations between the control and treated groups.

6. Anti bacterial activity[9]

L.glutinosa bark ethanolic extract. The Litsea glutinosa medicial plant's in-vitro antibacterial ethanolic extract activity were verified against multidrug resistant bacteria involving Bacillus cereus, Staphlylococcus aureus, Escherichia coli and Pseudomonas aeruginosa separated from clinical specimen. The Litsea glutinosa ethanolic extract revealed antibacterial activity when contrast with Gentamicin. Phytochemical studies on Litsea glutinosa bark extract showed the existence of saponins, alkaloids, tannins and cardiac glycosides.

7. Litsea glutinosa bark extracts was evaluated for aphrodisiac as well as infertility treatment activity[10].

This study provides evidence for significant aphrodisiac and possible male anti-infertility activity with improved testicular performance.

8. Anti fungal activity[9]: phytochemical constituents of Litsea glutinosa bark revealed efficient antifungal and anti bacterial activity

Chemical constituents: GC-MS analysis revealed the presence of Phytochemicals[11]**:**

1. **Oleic acid**	Beneficial effects on Cancer, Autoimmune and Inflammatory diseases.
2. **Eicosanoids-**	Anti- inflammatory effects.
3.Phytoestrogens	Osteoprotective, anti atherosclerotic.
4.Testosterone	Aphrodisiac.
5.Pyrrolidinone	CNS stimulant(analeptic effects)
6.Piperidine	Powerful analgesic
7.Pyridine	It increase the effect of acetylcholine and potassium injected during indirect Stimulations.
8.coumarin	Anticoagulant, Anti inflammatory, Anti hypertensive ,Anti convulsant Anti tubercular, Anti fungal, Antioxidant & Neuroprotective effects.
9.Terpenoids	Anti tumour, Anti inflammatory, Anti bacterial, Anti viral, Anti malarial effects

Chemical constituents reported in L.glutinosa bark:

Alkaloids- Boldine & laurolistine are a type of Aporphine Alkaloids present in L.glutinosa .

Chemical constituents and its Pharmacological properties:

1. Boldine & Laurolistine (Alkaloids)[60] : Antioxidant, Hepatoprotective, Anti-inflammatory, Neuroprotective Hypoglycemic, Cytoprotective, Anti Pyretic, & Anti thrombotic effect.

2. Monoterpene: Anti fungal, Anti bacterial, Antioxidant, Anti cancer, Anti arrhythmic, Local Anaesthetic, Anti inflammatory,Anti histaminic,Anti spasmodic,& Antino-ciceptives.

3. sesquiterpene:

Anti malarial,anti fungal anti inflammatory,antileishmanial,inhibition of nitric oxide production, antinociceptive, antifeedant, anti bacteria, anti microbial, anti protozoal, anti-viral effects.

4. Diterpenoids: Anti-Cancer drug Taxol used in therapy against Ovarian, Breast & Lungs Cancer, Anti tubercular effects.

5. Flavanoids:

Antioxidant, Sedative,Anti depressant, anti convulsant, anti Inflammatory, Anti microbial, Anti cancer, Cardioprotective, Anti hypertensive, Anti ulcerogenic, Anti diabetic and hepatoprotective effects.

6. **Lignans:** Antioxidants & free radical scavengers, leadingto decreased risk of cancer development.

7. **Steriods:**

Aphrodisiac & osteoprotective effects. The Bioactive molecules reported in Litsea glutinosa bark which shows Antioxidant, Anti inflammatory, Hypoglacemic, Hepatoprotective, Neuroprotective,

Aphrodisiac & osteoprotective effects. Litsea glutinosa bark is rich in alkaloids and various other important phytochemicals and phytoestrogens suggest that consumption of this plant can be helpful in treating osteoporosis and towards its multiple actions like antibacterial, antiinflammatory, osteoprotective, aphrodisiac and anti Rheumatic etc, and justifies its wide ethnomedical usage.

Discussion:

Litsea glutinosa bark(Maida lakdi)has contains a large number of active chemical Constituents Aporphine Alkaloids like Boldine & Laurolistine, flavanoids, terpines, lignans phytoestrogens, Piperidine, Coumarin, Terpenoids & Steroids, Essential oil having major function like antioxidant, analgesic anti inflammatory & Osteoprotective,anti pyretic, properties

CONCLUSION:

The drug Maida lakdi has proven harmless and no side effect was noted in this clinical trials of waja ul mafasil(Arthritis).It is due to presence of some phytochemicals in Maida lakdi like Piperidine,Boldine,Laurolistine,Eicosanoids,phytoestrogens,steroid and Flavanoids shows anti inflammatoty and osteoprotective effects.Hence this study concludes that Maida lakdi is more effective and safe in the management of waja ul mafasil(Arthritis).

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