

Burn Wound Healing Study Of *Ficus Religiosa*'s Bark Ash And Extraction

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Abstract

The Foreign Tree Of *Ficus Religiosa* Burn Wound Healing Activity Of *Ficus Religiosa*'s Bark Extracts And Ash Has Been Carried Out On Sdr (Sprague Dawley Rat). The Plants Of *Ficus Religiosa* Were Reported To Be Great Medicinal Importance And Used In Traditional Medicine To Treat A Wide Ranges Of Diseases. The Phytochemical Screening Revealed That Bark Contained Tannins, Saponin, Stigmasterol, Bergaptol And Lanosterol. From Exhausted Literature Review We Revealed That Show Antioxidant, Anti-Bacterial, Antiulcer, Anti-Microbial, Anti-Inflammation And Wound Healing Effects. Extraction Of Were Carried In Different Solvents Like Aqueous, Methanol, Chloroform And Hexane. Extractive Values Of These Solvents Are 10%, 13.6%, 2.5% And 1.42% Respectively. The Ointment Formulations Of Bark Extract And Bark Ash Has Been Prepared. The Result Of Burn Wound Healing Activity After 21 Days In Control, Standard, Ash And Aqueous Formulation Was Found 55.9 ± 2.3 , 58.1 ± 3.3 , 70.3 ± 7.9 And 55.7 ± 5.2 Respectively. The Result Of Bark Ash On Burn Wound Healing Activity Found Significant And The Other Extracts Shows Moderate Activity As Compared To Standard. In Conclusion, Application Of Ash Formulation Showed To Be Extremely Effective In Healing Burn Related Skin Wounds In The Rat Model.

Keyword: Ash, Burn Wound Healing, Bark, Ointment

Introduction

In Burn Wound Healing Study Is Defined As Functional Strength Of Tissue And Breaking Of Cellular Living Tissue. It May Be Scrap To The Tissue Moulded By Thermal, Microbial, Chemical Or Physical Immunological Tissues. The Who Is Supporting Traditional Is Less Expensive, Complete Medical Care Exclusively In Growing Countries. This Is A Medicinal Plants Used In Primary Health Care Trusts In 80% Of The World Population. The Who Is Established In The Botanical Medicine Which Significance Of Traditional Medicinal And Has Treated Strategy, Standard, Rules And Guidelines.¹ The Wound Healing Is Defined As Functional, Cellular And Anatomical Endurance Of A Living Tissue Which Produce By Chemical, Physical Microbial And Thermal Offense To The Tissue. Wound Healing Process Involves Is Constant Cell-Matrix And Cell-Cell Interactions Which Proceed In Different Processes And Overlapping Phases Including In Angiogenesis Such As Formation Of Granulation Tissues, Inflammation, Wound Contraction, Re-Epithelisation & Tissue Remodelling.

This Involves Is A Number Of Measure Including Dressing And Administration Of Painkillers, Healing Promoting Drugs, Topical Systemic Antimicrobial Agents And Use Of Anti-Inflammatory Agents In Maintains Of Wound Care Process.²

These Plants Have Medicinal Properties Due To The Occurrence Of Different Multipart Chemical Elements Of Various Compositions Mainly Found In One Or More Parts Secondary Plant Metabolites. This Plant Consists Of Herbal Medicine Based On Natural Substances Which Promote Health & Mitigate Illness.³ *Ficus Religiosa* Has Been Used In Treatment Of Various Disease Such As High Fever, Burn, Skin Disease, Cancer, Inflammation & Skin Disease. The Holy Books Of Hinduism Such As: Mahabharata, Ramayana, Upanishads, Puranas, Bhagavad Geeta, Arthasastra And Buddhistic Literature. These Have Been Contributed In Historical Events Mostly Wide Place In Religious, Medicinal And Mythological Systems Of India. *Ficus Religiosa* The Mostly Gotten In Religious Places. *Ficus Religiosa* Is Grows Very Large Wide Spread Tree In Size & Bark Of Brown Coloured Then Have A Plant Circular Shaped Fruit And Thin Shiny Leaves. These Have Been All Parts Of Plants Rich In Phytochemicals & Uses In Numerous Food Or Medicinal Preparations. Ripen Fruits Of *Ficus Religiosa* Has Peepal Are Palatable And Rich Sources Of Proteins And Minerals.⁴⁻⁵

This Fruits Contained Rich In Phytochemicals Such As Glycosides, Terpenoids, And Flavonoids. Which Are Known As To Therapy Disease Similar Asthma And Digestive Disorders. *Ficus Religiosa* Of Leaves Realise Phytochemicals Such As Tannins And Flavonoids. Which Used In Effects Of Curing Aliments Vomiting & Gonorrhoea Or Bark Contains Phytochemicals Like As Saponins, Flavonoids And Tannins And Using In Treatment Of Health Conditions Such As Bleeding, Diarrhea, Inflammation, Paralysis And Bacterial Infections.⁶

Ficus Religiosa Emphasize Traditionally Used And Clinical Potentials In Which The Authors Attracted Explored Of Natural Products Researches. *Ficus Religiosa* Has Been Available In Divided 4 Sections, Which Are Pharmacological, Ethno-Pharmacological, Morphology And Photochemistry.⁷ *Ficus Religiosa* Is Grows Very Large Wide Spread Tree In Size & Bark Of Brown Coloured Then Have A Plant Circular Shaped Fruit And Thin Shiny Leaves. These Have Been All Parts Of Plants Rich In Phytochemicals & Uses In Numerous Food Or Medicinal Preparations. Ripen Fruits Has Peel Are Palatable And Rich Sources Of Proteins And Minerals.⁸⁻⁹

Phytochemical Analysis Of *Ficus Religiosa*

Constituents Of Bark:

The Phytochemical Constituents Of Bark Fr Presence Are Phenol, Alkaloids, Steroid, Stigmasterol, Flavonoids, Bergaptol, Bergapten, Lanosterol, Wax, Tannins, Saponin, Lupeol, Leucoanthocyanin. This Contains Phytosterols Imitative Begaptol & Bergapten As Fr Dried Bark Of Aqueous Extract.¹⁰⁻¹¹

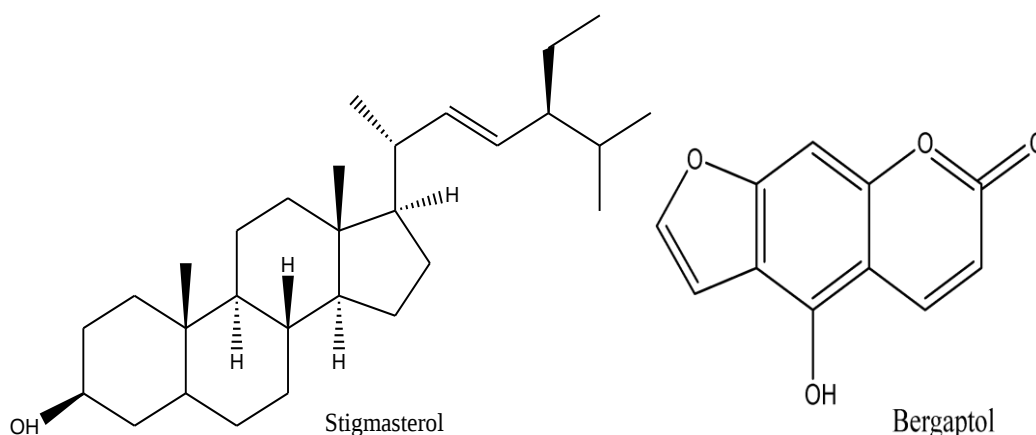


Fig. 1 The Chemical Constituents Of *Ficus Religiosa* Bark

Macroscopic Characteristics Of Bark:

The Characteristics Of *Ficus Religiosa* L. Plant¹² Following This Table No. 1

Colour	Brownish Yellow
Shape	Faintly Curled
Fracture	Rubbery
Texture	Coarse
Odour	Specific
Taste	Caustic

Microscopic Appearances Of Bark:

Ficus Religiosa Of Bark Made Up Of Three Zone Outer Part Is Cork, Middle Part Is Cortex And Inner Part Is Phloem. The Cortex Has Been Contains Stone Cells And Simple Paren-Chymatous Cells Then Medullary Cells And Parenchyma Cells Found In Phloem.¹⁰⁻¹³

Pharmacological Activity Of *Ficus Religiosa* :

- Antioxidant Activity¹⁴
- Antibacterial Activity¹⁴
- Antimicrobial Activity¹⁵
- Ant Diabetic Activity¹⁶
- Antidiarrheal Activity¹⁶
- Antiulcer Activity¹⁷
- Anti-Amnesic Activity¹⁸
- Anticonvulsant Activity¹⁹
- Anthelmintic Activity²⁰
- Immunomodulatory Activity²¹

Material And Methods:

Collection Of Plant:

The Fresh Barks Of *Ficus Religiosa* L. Were Collected From Muzaffar Nagar District, Uttar Pradesh, And Authenticated By Dr., Sunita Garg, Reader, Department Of Botany, Raw Material Herbarium And Museum, Delhi (Rhmd) Uttar Pradesh.



Fig. 2 Barks Of *Ficus Religiosa*

Preparation Of Bark Extracts:

Collected The Fresh Barks Of *Ficus Religiosa* L. Then Washed And Dried In The Room Shade. After Crush Dry Bark By The Glyinder And Sieved Make The Powder Form. The Barks Of Powder Take In The Rbf With Water And Boiled In Heating Mental With Condenser At 30⁰c For 4 Hours. After The Solvent Was Filter With The Help Of Muslim Cloth Then Collected The Marc Of Powder. The Filtered Marc Removed Air Dried Developed In Powdered And Weigh. After The Crushed Powder Of Barks Fill Up In The Soxhlat Apparatus At The Syphon Tube Of Soxhalet After Then Fill 250 Ml (Methanol, Chloroform, Hexane) In Rbf At 30-40⁰c For 72 Hours And Collect The Extracts. I Have Taken The China Disc For Dry To Easily Collect The Extracts Then Removed The Dry Foam And Stored In Airtight Container.²²

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Comparison Of Extraction Yield, Phytochemicals And In Vitro
Antioxidant Potential Of Different Extracts Of Two Ficus Species

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Extractive Values Of *Ficus Religiosa* Bark:

The Bark Of *Ficus Religiosa* Is Process Of Extractive Value Of Several Solvents Such As Aqueous, Methanol, Chloroform And Hexane Extractive Value.

Sr No.	Solvents	Colours Of Extracts	Wt. Of Plant Material	Extractive Value
1.	Aqueous	Brownish	1.83gm	10%
2.	Methanol	Dark Brown	2.50gm	13.66%
3.	Chloroform	Shine Brown	0.46gm	2.5%
4.	Hexane	Whitish	0.26gm	1.42%

Table No. 2
Extractive Values Of *Ficus Religiosa* Bark Extracts:

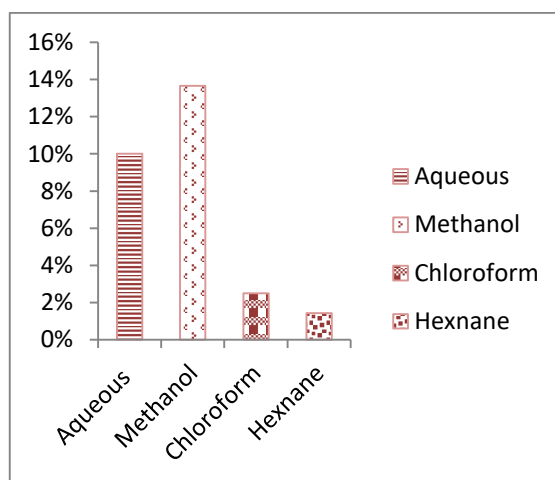


Fig.3 The Obtained Percentage Yield Of Extract From The Different Solvents (Successive Extraction)

Preparation Of Bark Ash:

The Barks Of *Ficus Religiosa* Is Washed And Dry In Shade Up To 40-50 Days After The Dried Bark Take In Crucible & Burn Of High Temperature (100°C) In Muffle Furnaces Then Originate Of Bark Ash.



Fig. 4 Prepared Of Bark Ash

Ash Value Of *Ficus Religiosa* Bark:

The Weighed Of Bark Quantity 2.00gm And Without Bark Crucible Wt. 22.97gm Or Final Drug Weight 23.38gm Then The Bark Ash Value Is 20.5%.

Physical Contents Of Fr Bark:

Table No.3 Physical Content Of *Ficus Religiosa*

Sr No.	Physical Content	Total Value
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1.	Ash Value	20.5%
2.	Acid Insoluble Ash	0.41%
3.	Total Ash	4.3%

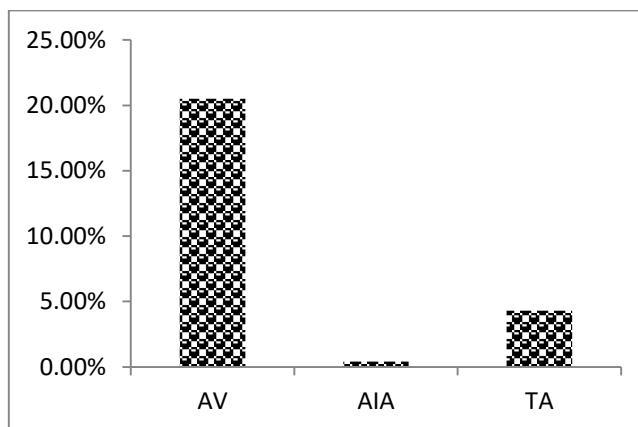


Fig.5 The Percentage Yield Of Ash Value Of *Ficus Religiosa*

Preparation Of Burn Wound Healing Ointment:

Carbopol 940 Was Sprinkled Slowly Into A Small Quantity Of Distilled Water And Continuous Steering To Get Uniform Dispersion Weighed Quantity Of Ointment And Preparation Kept Overnight.²³ Then Added Of Extracts In Ointment & Apply Of Topical Area Of The Skin At The Rats.

- Aqueous Ointment:** Firstly Take A 10gm Of Ointment Base Which Added The 0.8gm Of Aqueous Extracts Quantity And Some Drops Of Coconut Oil.
- Methanolic Ointment:** Take A 10gm Quantity Of Ointment Base Then Add A 0.8gm Of Methanol Extracts & Added The Drops Of Coconut Oil.
- Chloroform Ointment:** The Ointment Base Taken A 10gm And Add The 0.8gm Of CHCl_3 Extracts Then Add A Coconut Oil Of Few Drops.
- Ash Ointment:** Firstly Take A 10gm Of Ointment Base Which Added The 0.8gm Ash Of Bark Quantity Or Add The Drops Of Coconut Oil.



Fig. 6 Ointments Of Burn Wound Healing

Qualitative Analysis Of *Ficus Religiosa* Barks Ash:

The Bark Of *Ficus Religiosa* Is Burned In Crucible By Using The Muffle Furnace And Then Determined Qualitative Analysis Of Ash. The Bark Of Ash Is Using Many Salts, Solution And Testing Of Minerals Such As Sodium, Potassium, Barium, Zinc, Calcium, Iron And Lead. The Qualitative Test Is Following:

- (a) **Barium Test:** Solution Of Salt (Barium Chloride) With Dilute Sulphuric Acid, Add Of Ash In Solution Give White Precipitate Which Insoluble In Hydrochloric Acid And Nitric Acid.
- (b) **Bromides Test:** Bromide Solution Is Heated With Manganese Di-Oxide; Sulphuric Acid And Ash Give Orange Yellow Colour To Filter Paper Moistened With Solution Of Starch.
- (c) **Calcium Test:** Take A Solution Of Calcium Salts Yield, With Solution Of Ammonium Carbonate And Ash Gives A White Precipitate Which After Boiling & Cooling The Mixture But Insoluble In Ammonium Chlorides.
- (d) **Chlorides Test:** Chlorides Heated With A Manganese Dioxide, Sulphuric Acid And Ash, Yield Chlorine Recognisable By Its Odour And Giving A Blue Colour With Potassium Iodide.
- (e) **Copper Test:** Solution Of Copper Salts And Ash Yield With Sodium Hydroxide A Light Blue Ppt. Which Becomes Brownish-Black On Boiling.
- (f) **Iron Test:** Take A Solutions Of Iron Salts (Ferrous) In Dilute Hcl After Add Sufficient Quantity Of Solution Of Potassium Permanganate And Ash To Produce A Pink Colour.
- (g) **Lead Test:** Strong Solution Of Lead Salts And Ash Yield With Hydrochloric Acid A White Precipitate Soluble In Boiling Water And Produce As Crystals When The Solution Is Cooled.
- (h) **Magnesium Test:** Ash And Solution Of Mg Salt Yield A White Ppt. With Solution Of Ammonium Carbonate, Especially On Boiling No Ppt. In The Presence Of Solution Of Ammonium Chloride.
- (i) **Potassium Test:** Potassium Compounds Moistened With Hcl And Add The Ash Introduced On Platinum Wire In To The Flame Of A Bunsen Burner; Give A Violet Colour To The Flame.
- (j) **Sodium Test:** Sodium Compounds And Ash, Moistened With Hydrochloric Acid & Introduced Into The Flame Of A Bunsen Burner, Give A Yellow Colour To The Flame.
- (k) **Zinc Test:** Ash And Solution Of Zinc Salts Yield With Solution Of Ammonium Sulphate Or With Hydrogen Sulphide And Solution Of Naoh, A White Precipitate Soluble In Hydrochloric Acid But Insoluble In Acetic Acid.

Qualitative Analysis Of Fr Bark Ash Following Table No.4

Qualitative Analysis Of <i>Ficus Religiosa</i> Bark Ash		
Sr No.	Test	B:A(+)
1.	Barium Test	+
2.	Bromide Test	+
3.	Calcium Test	+
4.	Chlorides Test	+
5.	Copper Test	+
6.	Iron Test	+
7.	Lead Test	-
8.	Magnesium Test	+
9.	Potassium Test	+
10.	Sodium Test	+
11.	Zinc Test	-

Quantitative Analysis Of Fr Barks Ash:

The Quantitative Analysis Of *Ficus Religiosa* Is Instrument Using My19169002 Or Current Software Version Is 1.6.1.10384. In This Analysis Wavelength Is B (249.772), Ca (393.366), Cu (324.754), Na (588.995), Zn (213.857), Mn (403.076), Pb (368.346) And Fe (371.993).

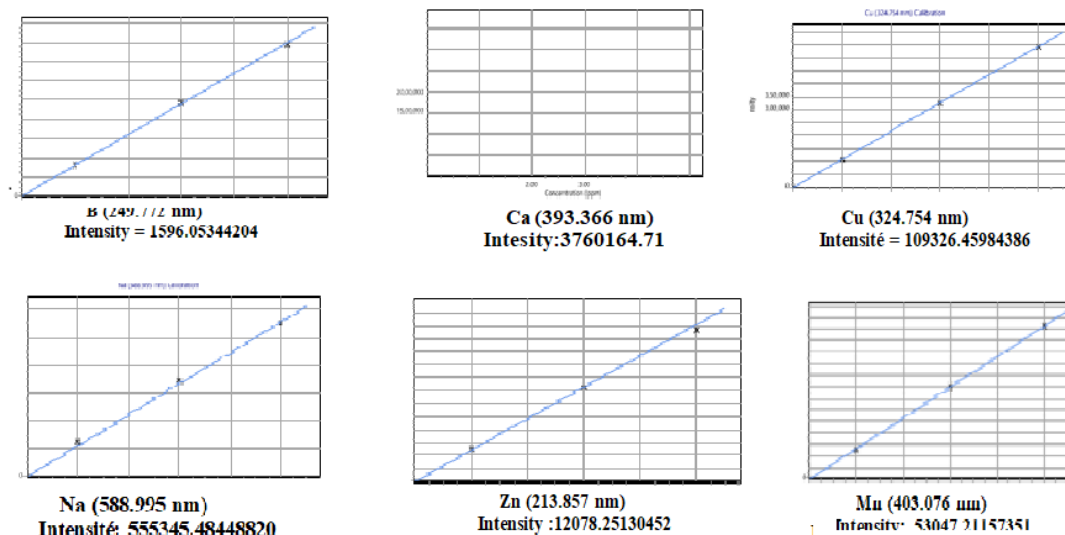


Fig.7 Quantitative Analysis Of *Ficus Religiosa* Bark Ash Of Several Compounds

Label	Element Label (Nm)	Cone	9'orsd	Unadjusted Conc	Intensity	9orsd
Standard 1	Zn (213.857 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	12575.39	0.48
Standard 1	B (249.772 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	1625.65	1.08
Standard 1	Ca (393.366 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	1193838.0	0.15
Standard 1	Fe (371.993 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	14281.1	0.37
Standard 1	Cu (324.754 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	109918.05	0.27
Standard 1	Pb (368.346 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	2995.39	0.24
Standard 1	Mn (403.076 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	51946.84	0.24
Standard 1	Na (588.995 Nm)	1000.00 (Ppb)	N/A	1000.00 (Ppb)	640687.1	3.95
Standard 2	Zn (213.857 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)	36358.92	0.84
Standard 2	B (249.772 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)	4891.76	1.12

Standard 2	Ca (393.366 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)	7	2451227.8	0.25
Standard 2	Fe (371.993 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)		40641.54	0.49
Standard 2	Cu (324.754 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)		326260.28	0.59
Standard 2	Pb (368.346 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)		9230.27	0.7
Standard 2	Mn (403.076 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)		160383.9	0.15
Standard 2	Na (588.995 Nm)	3000.00 (Ppb)	N/A	3000.00 (Ppb)	1	1735268.9	2.18
Standard 3	Zn (213.857 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)		58437.73	0.5
Standard 3	B (249.772 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)		7902.09	0.82
Standard 3	Ca (393.366 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)	1	3760164.7	0.43
Standard 3	Fe (371.993 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)		67748.16	0.71
Standard 3	Cu (324.754 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)		544315.88	0.28
Standard 3	Pb (368.346 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)		15528.99	0.29
Standard 3	Mn (403.076 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)		265970.71	0.63
Standard 3	Na (588.995 Nm)	5000.00 (Ppb)	N/A	5000.00 (Ppb)	9	2752955.8	0.75
Wash	Zn (213.857 Nm)	-8.42 U (Ppb)	17.92	-8.42 U (Ppb)		-35.52	51.32
Wash	B (249.772 Nm)	32.35 (Ppb)	15.63	32.35 (Ppb)		71.47	11.29
Wash	Ca (393.366 Nm)	Uncal (Ppb)	N/A	Uncal (Ppb)		-80.19	> 100.00
Wash	Fe (371.993 Nm)	0.25 U (Ppb)	> 100.00	0.25 U (Ppb)		28.06	29.37
Wash	Cu (324.754 Nm)	2.78 (Ppb)	27.49	2.78 (Ppb)		323.95	25.81
Wash	Pb (368.346 Nm)	0.05 U (Ppb)	> 100.00	0.05 U (Ppb)		-8.04	47.65
Wash	Mn (403.076 Nm)	0.08 U (Ppb)	> 100.00	0.08 U (Ppb)		1.68	> 100.00
Wash	Na (588.995 Nm)	-10.27 U (Ppb)	6.60	-10.27 U (Ppb)		-5691.53	6.61
Blank	Zn (213.857 Nm)	-6.27 U (Ppb)	88.95	-6.27 U (Ppb)		-9.48	> 100.00
Blank	B (249.772 Nm)	23.71 (Ppb)	32.16	23.71 (Ppb)		57.68	21.1
Blank	Ca (393.366 Nm)	Uncal (Ppb)	N/A	Uncal (Ppb)		58277.62	0.3

Blank	Fe (371.993 Nm)	8.56 (Ppb)	0.79	8.56 (Ppb)	143.7	0.66
Blank	Cu (324.754 Nm)	1.54 (Ppb)	21.56	1.54 (Ppb)	188.21	19.3
Blank	Pb (368.346 Nm)	-0.41 U (Ppb)	> 100.00	-0.41 U (Ppb)	-9.43	50
Blank	Mn (403.076 Nm)	-0.95 U (Ppb)	5.60	-0.95 U (Ppb)	-52.71	5.35
Blank	Na (588.995 Nm)	6.85 (Ppb)	5.96	6.85 (Ppb)	3816.86	5.94
Sample	Zn (213.857 Nm)	289.14 (Ppb)	1.32	289.14 (Ppb)	3558.54	1.29
Sample	B (249.772 Nm)	467.18 (Ppb)	4.7	467.18 (Ppb)	765.48	4.58
Sample	Ca (393.366 Nm)	#### (Ppb)	N/A	#### (Ppb)	####	N/A
Sample	Fe (371.993 Nm)	4029.46 (Ppb)	0.4	4029.46 (Ppb)	56093.36	0.4
Sample	Cu (324.754 Nm)	181.16 (Ppb)	0.6	181.16 (Ppb)	19824.91	0.6
Sample	Pb (368.346 Nm)	-65.41 U (Ppb)	2.48	-65.41 U (Ppb)	-207.38	2.38
Sample	Mn (403.076 Nm)	425.35 (Ppb)	0.2	425.35 (Ppb)	22561.12	0.2
Sample	Na (588.995 Nm)	4614.77 (Ppb)	0.4	4614.77 (Ppb)	2562803.3	0.4
Wash	Zn (213.857 Nm)	-9.63 U (Ppb)	16.71	-9.63 U (Ppb)	-50.13	38.79
Wash	B (249.772 Nm)	35.98 (Ppb)	42.01	35.98 (Ppb)	77.27	31.23
Wash	Ca (393.366 Nm)	Uncal (Ppb)	N/A	Uncal (Ppb)	5126.3	11.96
Wash	Fe (371.993 Nm)	-1.37 U (Ppb)	24.24	-1.37 U (Ppb)	5.50	84.14
Wash	Cu (324.754 Nm)	1.16 (Ppb)	4.08	1.16 (Ppb)	146.11	3.53
Wash	Pb (368.346 Nm)	1.23 U (Ppb)	> 100.00	1.23 U (Ppb)	-4.44	> 100.00
Wash	Mn (403.076 Nm)	-0.01 U (Ppb)	> 100.00	-0.01 U (Ppb)	-2.94	> 100.00
Wash	Na (588.995 Nm)	-2.45 U (Ppb)	20.02	-2.45 U (Ppb)	-1347.85	20.19

Testing Of Ash And Extracts Ointments:

Stability Testing: The Stability Testing Of Ointment Is Stabilized With Heated At 40°C, Cooling In Refrigerators At 3°C And Room Temperature²⁴.

Organoleptic Evaluation Of Ointment: The Ointment Is Carried Out Different Concentrations Of Formulations Such As: Shrinking Due To Evaporation Of Water, Evidence Of Microbial Growth, Discoloration, Colour And Crystal Growth²⁴.

P^h: Take A 0.5gm Of Ointment And Dispersed In 50ml Of Distilled Water Then Measured Using Digital P^h Meter And Obtained The Ph.²⁴

Viscosity: The Prepared Ointment Is Determined Using The Brookfield Viscometer Which Formulation Average & Triplicate Value Express At Standard Or Mean Deviation.²⁴

Melting Point: The Melting Point Of Ointment Is Liquefied At 70⁰c Which Heated With Digital Melting Point Devices To Control Over Heating Ingredients.²⁵

Uniformity: These Include Ointment In Uniformity Of Particle Size & Drug Substances Which Suspended In Vehicle.²⁵

Loss On Drying: The Ointment Is Tested Measured Loss On Drying Weighted By Digital Moisture Balance Which Taken A Small Amount Of Water & Volatile Material Then Set The Temperature At 105⁰c Get The Constant Weight Of Ointment And Calculated Automatically Percentage Loss On Drying.²⁵

Burn Wound Healing Activity:

Animals:

A Sdr (Sprague Dawley Rat) Male Rat Of Five Weeks Was Purchased And S. D. College Of Pharmacy And Vocational Studies In Animal House Sdr Rats Housed In Control Light Or Dark Cycle, Humidity And Temperature. This Rats Given Water And Standard Pellet Diet For 12 Hours. The Experimental Protocol Is Approved By Iaec Committee And Care Of The Animals Is Carried Out As Per The Guidelines Of The Committee For The Purpose Of Control And Supervision Of Experimental Animal (Cpcsea), Ministry Of Environment And Forests, Government Of India Registration No- 876/Po/Re/S/05/Cpcsea.

Experimental Work:

The Burn Wound Healing Models Is Used To Estimate The Animals Are Divided Into Four Groups Of Six Animals. The Rats Are Anesthetized To Diethyl Ether And Shave With Sterile Blade On The Dorsal Surface Of The Rats.

Then Rats Is Shaved Area Sterilised With Ethanol And Heated With Cylindrical Metal Rod After Pressed Shaved Area Back Only For Twenty Seconds.²⁶

Group 1 (Control) Animals Are Given Burn Injury And Treated Without Any Medicament.

Group 2 (Standard) The Rats Are Given Burn Injury & Treated With Standard Drug (Silver Nitrate Gel) Is Applied On The Affected Area.

Group 3 (Bark Ash) All The Rats Are Given Burn Injury Or Treated With The Ash Cream And Apply On The Burn Area.

Group 4 (Aqueous) The Animals Are Treated With The Fr Bark Extract Applied On The Burn Area Of The Skin.²⁷

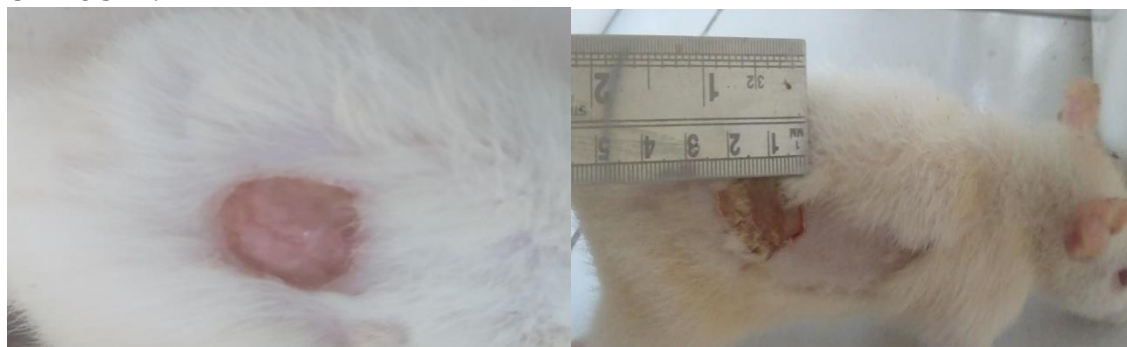




Fig. 8 The Burn Wound Healing Activity On Rats

Pharmacological Evaluation:

The Parameters Observed In The Study Were As Follow:

Epithelialization Period:

It Is Determined By Noting The Number Of Days Required For The Burn Wound Surface Without Leaving A Raw Wound Behind.

This Is Significance Of Burn Wound Healing Of Ash Formulation And Test Treated Groups Is Derivative By Comparing The Wound Area Healed On 21 Days With Control Group.²⁷

Wound Contraction:

The Wound Contraction Is Measured By The Following Progressive Changes In Wound Area Planimetrically, Eliminating The Day Of The Wounding The Size Of The Wounds. In The Wound Model Rate Of Wound Contraction Is Determined As A Percentage Reduction Of The Wound Size & The Surface Area Is Measured On The 0, 3, 6, 9, 12, 15, 18 And 21 Post-Wounding Days By Measuring The Wound.²⁷ This Is Estimated Surface Area Employed To Calculate The Percentage Of Wound Contraction And Taking The Initial Size Of Wound As 100%, By Using The Following Equation:

Percentage Of Wound Contraction = [(Initial Wound Size – Specific Day Wound Size) / Initial Wound Size] X 100.

Statistical Analysis:

The Macroscopic Evaluation Is Performed Daily Direct Observation During Burn Injury Wound Area. This Is Presented Of Redness, Pain, Dark Secretion And Bleeding. All The Groups Of Result Is Analysed Using One Way Anova Test Followed By Dunett's Test With $P \leq 0.005$ And $P \leq 0.001$ Considered Significant For All Values.²⁷

Result:

The Percentage Of Wound Contraction Are Significantly Higher In The *Ficus Religiosa* Bark Ash And Different Extracts Based Ointment Treated The Animals Groups As Compared To Burn Injury Group (Control) Table No.5

Additionally, It Is Interesting Day Of Study The Percentage Of Wound Contraction In The *Ficus Religiosa* Ash Ointment And Extracts Treated Group Is Significance Of Higher Then Of The Standard Drug. The Mean Period Of Epithelialization Is Originate To Decrease Expressively In The *Ficus Religiosa* Bark Ash Ointment And Several Extract Based Treated Group As Compared To Burn Injury Group As Well As Standard Drug.

The *Ficus Religiosa* Bark Ash And Extracts Ointment Treated Burn Injury Healing And Increased The Percentage Of Wound Contraction.

Burn Wound Healing Activity Of Several Extract

Table No.5 Effect Of *Ficus Religiosa* Bark Extracts Based Ointment On Wound Contraction In A Period Of 21 Days

Percentage Of Wound Contraction (Mean $\pm$ S.E)				
	Control	Standard	Ash	Aqueous
Day1	0	0	0	0
Day5	13.5 $\pm$ 1.1	15.9 $\pm$ 1.2	13.3 $\pm$ 0.9*	11.2 $\pm$ 0.8*
Day9	24.6 $\pm$ 3.8	23.7 $\pm$ 2.1*	30.5 $\pm$ 2.6*	23.8 $\pm$ 2.5*
Day11	38.0 $\pm$ 2.1	36.3 $\pm$ 2.4*	46.4 $\pm$ 4.7*	36.1 $\pm$ 4.0*
Day15	50.3 $\pm$ 2.4	47.0 $\pm$ 3.4*	65.9 $\pm$ 7.7	47.5 $\pm$ 4.7*
Day21	55.9 $\pm$ 2.3	58.1 $\pm$ 3.3*	70.3 $\pm$ 7.9	55.7 $\pm$ 5.2

(The Burn Injury Groups Are Against Standard Drug (Silver Nitrate) On 21 Days $P < 0.005$ And $P < 0.001$ Is Considered Significant For All Values.)

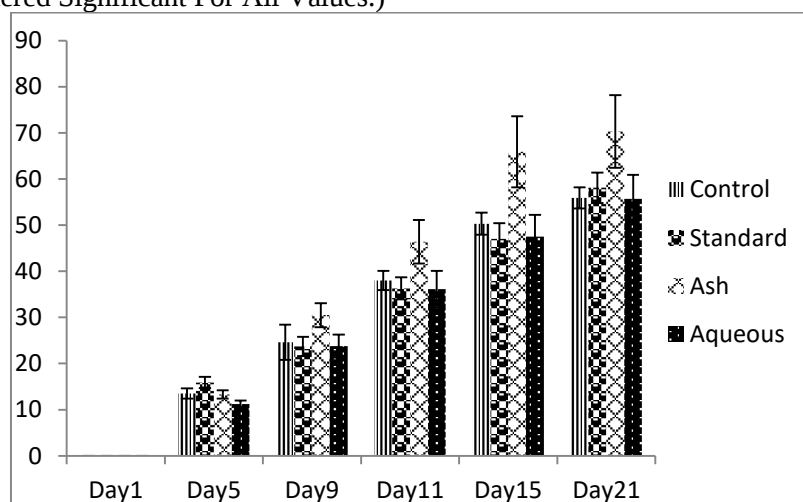


Fig. 9 The Effect Of *Ficus Religiosa* Bark Extracts Based Ointment On Wound Contraction In A Period Of 21 Days

Wound Analysis:

The Wound Closure Time Is Less As The Percentage Of Wound Contraction Is Fast With Dose Of Ash Ointment And 25% Extract Groups Exhibited 100% Wound Contraction In (70.3 $\pm$ 7.9) Days During Wound Healing Which Is Higher Effect Of Standard Drug Treated Group(58.1 $\pm$ 3.3) Wound Days. This Is Significance Of Wound Contraction Shown Ash Ointments And Bark Extracts From 15 Days Onwards And Achieved 100% Wound Closure.²⁷

Discussion:

The Burn Wound Healing Activity Is Motivation Of Injury To Tissues Which Repair Of Wound Closure Developing To The Repair And Remodelling Of Damaged Tissue. The Barks Of *Ficus Religiosa* Have Description Of Plant, Phytochemical Constituents And Burn Wound Healing Activity. The Plant Of The *Ficus Religiosa* Are Known To Be A Rich Source Of Chemical Constituents Using Medicinal Values Which Reported With Phytochemical Constituents Such As Saponins, Flavonoids, Terpenes And Tannins Etc. The Result Present Study Is Indicates 70% Aqueous, Methanolic, Chloroform And Hexane And Ash Bark Extracts Ointment Of Plants Then Presented Significance Of Burn Wound Healing Activity. The Phytochemical Constituents All Extracts Isolate Using By Column Chromatograph And Thin Layer Chromatography And Then Prepared Ointment Using Extracts And Ash Formulations Which

Apply On The Topical Skin Of The Rats. The Ointment Promoted 50% Increasing Of Wound Contraction, Re-Epithelisation, Formation Of Granulation Tissues And Cellular Proliferation As Compared To Control Animals. In This Excision Burn Wound Model Significance Higher Rate Of Breaking Skin Tissue, Epithelisation And Wound Contraction. This Is Using Natural Products For The Treatment Of Burn Wounds, Which Mainly Aimed At Controlling Infections Associated With Burns, Antibacterial, Antimicrobial, Anticancer, Antiulcer And Anti-inflammatory Etc. In This Phytochemical Analysis Provide Extracts Has Been Subjects To Purification To Identify, Fractionation And Isolation Of Active Compound Responsible For Burn Wound Healing.

This Study Provision Of *Ficus Religiosa* Plant Effective Agents In Various Diseases That Is Cancer, Fever, Burn, Cough, Skin Problems, Wound Healing, Eye Problem And Cardiovascular Diseases.

Sdr Male Rats Skin Back Layer Apply The Prepared Extracts Ointment (Standard, Methanol, Chloroform, Aqueous And Ash). The Ointment Promoted 10% Increasing Of Wound Contraction, Re-Epithelisation, Formation Of Granulation Tissues, And Cellular Proliferation As Compared To Control Animals. In This Excision Burn Wound Model Significance Higher Rate Of Breaking Skin Tissue, Epithelisation And Wound Contraction. In This Phytochemical Analysis Provide Extracts Has Been Subjects To Purification To Identify, Fractionation And Isolation Of Active Compound Responsible For Burn Wound Healing.

Summary And Conclusion:

This Plant Is Increasing Interest Worldwide In Herbal Medicines Complimented By Increased Laboratory Investigation Pharmacological Properties Of The Bioactive Compound And Their Ability To Treat Various Diseases.

The Traditional Plant Of *Ficus Religiosa* Has Been Many Chemical Constituents & Pharmacological Effect Capable Plant For Many Medical Purpose As A Result Of Effectiveness & Safety Which Large No Of Population Is Suffering From Burn Wound Healing & Its Related Disorders. The Present Findings It Can Be Assumed The *Ficus Religiosa* Bark Extracts And Ash Ointment Exhibited Potent Wound Healing Possible Against Burn Injury And That The Anti-Burning Activity Of The Fr Extracts.

The *Ficus Religiosa* (Bark Part) Plant Extracts And Ash Concluded Burn Wound Healing Activity.

This Is Result Shows Ash, Aqueous, Methanol, Chloroform And Hexane Extracts Of *Ficus Religiosa* Bark Showed Significant Burn Wound Healing Activity Of Which Compared Other Groups Of Animals. In This Enclosure Of This Plant In Management Of Burn Wound Healing Ointment. The Literature Survey Exposed Very Small Research Work Is Reported On *Ficus Religiosa* L. Plant Protein, Glycoside, Terpenes, Brgepten And Flavonoids Were Reported In Barks. In This Study The Methanol Extract And Fraction Of Benzene And Methanol Solvents Of *Ficus Religiosa* L. Were Used To Evaluate Burn Wound Healing Activity By Using The Above Models. The Preliminary Phytochemical Tests Revealed The Presence Of Bergaptol, Lanosterol, Tannis, Saponin, Lupeol, And Wax. Thin Layer Chromatogram Indicated Is That Proteins Prevalent In The Methanol Extract Because The Rf Value Was Close To The Reported Value 0.68.

The Present Study Discovered *Ficus Religiosa* Stems Bark Fine Powder Showed Manifest Important Wound Healing Activity In Removed Wound Model On Sdr Male Rats.

The Result Of Bark Ash On Burn Wound Healing Activity Found Significant And The Other Extracts Shows Moderate Activity As Compared To Standard.

The Present Study Discovered *Ficus Religiosa* Stems Bark Fine Powder Showed Manifest Important Wound Healing Activity In Removed Wound Model On Sdr Male Rats. The Result Of Bark Ash On Burn Wound Healing Activity Found Significant And The Other Extracts Shows Moderate Activity As Compared To Standard.

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