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THE EFFICACY OF BOREVIA DIFFUSAEXTRACT IN CHRONIC RENAL FAILURE PATIENTS UNDERGOING HEAMODIALYSIS

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ABSTRACT :

The present medicinal system is dominated by the Alopathy or western medicine which is still evolving and during last few decades focus was based on chemical origin of most of the medicines .Thus majority of drugs in current practice are from synthetic origin Even so, a large number of the synthetic molecules are based directly or indirectly on natural products.

Chronic Renal failure (CRF) represents a progressive irreversible decline in the glomerular filtration rate (GFR).A common phenomenon in renal failure is progressive renal function loss irrespective of the underlying cause of the kidney disease .The underlying cause of CRF has shifted from classic causes such as glomerulo nephritis and interstitial nephritis, Atherosclerosis ,hypertensive nephropathy and diabetic nephropathy.

Most common screening test for CRF is the measurement of serum creatinine. However, it a insensitive measure, sinceasmuchas 50% of the nephron mass may be lost before creatinine concentration increases and levels are influenced by several factors such as sex, age, body mass and diet. Chronic renal failure refers to an irreversible deterioration in renal function It classically develops over a period of years, initially it manifests only a biochemical abnormality. Eventually loss of excretory, metabolic & endocrine functions of the kidney leads to the development of clinical symptoms & signs of renal failure which refers to uremia, when death is likely without renal replacement therapy it is called as End Stage Renal Disease(ESRD).

Key words: Chronic Renal Failure, *Mootraghat* ,*Punarnava Ghana* ,Heamodilysis

INTRODUCTION: The social & economic consequences of chronic renal failure are considerable renal transplantation, heamodialysis, peritoneal dialysis are the only solutions& they are not so easy & complete for the well being of the patient so it is the need of our to find out ayurvedic supportive treatment for such patients.

[1]Chronic renal failure (CRF) is a global threat to health in general and for developing countries in particular because therapy is expensive and life long.CRF not only increases the mortality and morbidity but also leads to adverse impact on the economy of the country. It would be interesting to know that the incidence of chronic Renal Failure in India , which is a densely populated country with low income, different food ,cultural traditions and lifestyle habits, is 7.85million CRF patients of its 1 billion populations and the prevalence rate is about0.78%. [2]Punarnava is an important herb acting on *mootravaha srotasa*, is commonly used in ayurvedic system of medicine .*Punarnava is laghu ,ruksha* having *madhur vipak &ushna veerya* ,it acts as haematinic, appetizer, reduces oedema & is diuretic. In this study, *Punarnava Ghana satva* is used.*Ghana satva* is aqueous extract of medicinal plant. No problem of palatability. It disintigrades quickly % is absorbed immediately. It is cost effective

& affordable,so this drug is selected for study.

AIMS AND OBJECTIVES:

1. To study the efficacy of extract of B.Diffusa in chronic renal failure patients undergoing haemodilysis

2. To study the efficacy of extract of B. Diffusa as a supportive medicine in relieving the symptoms of chronic renal failure such as dyspnoea, nausea, oedema, pallor, pruritis, anorexia, oliguria etc in patients undergoing heamodilysis. For clinical study,60 patients were studied.

CRITERIA FOR SELECTION OF PATIENTS:

A) INCLUSION CRITERIA:

1. Diagnosed patients of chronic Renal Failure undergoing haemodialysis
2. Age 18-60 year
3. As per classical signs and symptoms described in chronic renal failure like dyspnoea, nausea, oedema, vomiting, pallor, pruritis, weakness, anorexia, oliguria

B) EXCLUSION CRITERIA:

1. Acute renal failure
2. Urinary calculus
3. Uremic Coma
4. Known patients of renal artery stenosis
5. Urinary tract carcinoma.

are excluded from the present study.

C) OBJECTIVE PARAMETER (INVESTIGATIVE CRITERIA):

1. Serum creatinine
2. BUN
3. Hb%

D) CLINICAL METHOD: 60 patients were selected randomly of chronic renal failure who are undergoing haemodialysis were studied out. Detailed examinations carried out according to Ayurved and modern aspect according to the proforma. In this study total70 patients were included after an informed written consent of patients, out of which 10 patients were dropout and finally,60 patients were enrolled for trial, patients were examined for detailed history taking, general and systemic examinations.

Total 60 patients of chronic renal failure were studied out of which 30 were treated with Extract of Borevia diffusa & with maintainence haemodialysis. And 30 were treated with only maintainence haemodialysis.

Kala: *Prgbhakta*(before meal)

Matra: 2 tab. (500mg) twice a day orally with water

Duration: 3 months (90 days)

Follow Up: 15, 30,45,60,75, 90 Days.

F) CRITERIA FOR ASSESSSMENT:

1) SUBJECTIVE CRITERIA:

Following symptoms were on 4point scale and gradation were entered in the specially prepared proforma(CRF) & were assessed on every visit.

Dyspnoea:

Grade	Score	Feature
0	0	Absence of breathlessness
1	+	Breathlessness after heavy work
2	++	Breathlessness after routine work
3	+++	Always breathlessness

Nausea:

Grade	Score	Feature
0	0	Absent
1	+	Mild/ Moderate
2	++	Nausea after food
3	+++	Severe/constant nausea

Oedema:

Grade	Score	Feature
0	0	No oedema at all
1	+	Mild oedema on face
2	++	Mild oedema on face & legs
3	+++	Severe oedema all over the body

Vomiting:

Grade	Score	Feature
0	0	Absent
1	+	Occasional
2	++	After food
3	+++	Severe

Pallor:

Grade	Score	Feature
0	0	Absent
1	+	Mild
2	++	Moderate
3	+++	Severe

Pruritis:

Grade	Score	Feature
0	0	No itching
1	+	Occasional Itching
2	++	Itching in day time
3	+++	Itching at day & night

Weakness:

Grade	Score	Feature
0	0	Absent
1	+	Weakness after heavy work
2	++	Tired after heavy work
3	+++	Always tired

Anorexia:

Grade	Score	Feature
0	0	Absent
1	+	Mild
2	++	Moderate
3	+++	Severe

INVESTIGATIONS: Following investigations will be carried out for eachpatients treated in proposed study.1)Hb% 2) Serum.Creatinine 3) Blood urea nitrogen level.

OBSERVATION AND RESULTS:

Group A vs Group B at 5% level of significance

No.	Symptom	(Chi)2	Df	Table (chi)2	Probability	Result
1	Dyspnoea	10.514	2	5.99	>0.05	Significant
2	Nausea	8.569	2	5.99	>0.05	Significant
3	Pallor	0.289	2	5.99	>0.05	Not Significant
4	Weakness	11.32	2	5.99	>0.05	Significant
5	Pruritis	0.16	2	5.99	>0.05	Not Significant
6	Vomitting	2.49	2	5.99	>0.05	Not Significant
7	Anorexia	11.32	2	5.99	>0.05	Significant
8	Oedema	6.41	2	5.99	>0.05	Not Significant

Quantitave Data: Unpaired 't' test is applied.

Group-A:

Sr.no	Parameter	N	Σx	Mean diff	Σ(X-X)2	S.D	S.E	Tcal	T29	P	Significance
1	Hb%	30	5.1	0.17	40.44	1.18	0.21	0.80	2.05	0.05	Not significant
2	BUN	30	111.5	3.716	4160.21	11.97	2.18	1.7	2.05	0.05	Not significant
3	Sr.creat	30	13.23	0.441	54.186	1.366	0.249	1.837	2.05	0.05	Not significant
4	Urine output	30	99.9	3.33	959657.21	181.91	33.25	0.1	2.05	0.05	Not Significant

Group-B:

Sr No	Parameter	N	Σx	Mean Diff	Σ(x-x)2	S.D	S.E	tcal	T29	P	Significance
1	Hb%	30	0.1	0.003	66.129	1.51	0.27	0.011	2.05	0.05	Not significant
2	BUN	30	251.1	8.37	51156	42	7.67	1.091	2.05	0.05	Not significant
3	Sr.creatinine	30	9.7	0.32	232.48	2.83	0.51	0.62	2.05	0.05	Not significant
4	Urine output	30	870	29	704420	15.85	28.49	1.017	2.05	0.05	Not significant

Total Effect of Therapy:

Upshaya	Relief in %	Group A	Group B
Uttam (Best Relief)	76-100%	0	0
Madhyam (Better Relief)	51-75%	3	1
Hina (Good Relief)	26-50%	17	6
Anupashsya (No relief)	0-25%	10	23
Total No.of patients		30	30

DISCUSSION: In this study Maximum incidence of this disease observed in age group 46-60,highest incident observed in *kapha- vata prakruti*(26.66%),major populations were farmers and housewives shows highest incident.

In this study patients HB%,BUN ,& sr. creatinine levels were studied on Day1 and day90 but showed insignificant change.

Hb%: [5]Anemia of Chronic renal failure is due to deficiency of erythropoietin secreted by cells of juxtraglomerular app. So anemia is due to decresing renal parenchyma which is explained irreversible by modern medicine any change in this condition should be studied with animal studies & for longer duration. but in this study animal study was not carried out

BUN & Sr.creatinine: BUN & creatinine level are indication for renal function no significant change in them is observed in this study. Further study should be carried out for a further large period which may show change in them.

In this study Punarnava Ghana is significantly effective in reducing the symptoms of uremia like *shwas* (dyspnoea), hrullas (nausea), *daurbalya* (weakness) & *anannabhilasha* (Anorexia)

Shwas (dyspnoea): [8]Is reduced due to reduction of tissue fluid due to oedema in lungs as urine output increases this fluid decrese & dyspnoea is reduced.

Daurbalya (weakness): *Punarnava* is a *Rasayan dravya* so daurbalya in patients is decresed. [3] *Punarnava* acts on cellular level increasing tissue respiration, modulates action of different enzymes & hormones major group of patients involved in this study found to be hypertensive & diabetic this lead early aging of the tissue it reduces aging of cells so act as a *Rasayana.*

Anannabhilasha (anorexia): *Vata pitta prakop* leads to *Dhatukshaya* causing *agnimandya* then use of such *dravya* reduces *vata pitta & dhatukshaya punarnava* act as a agni deepak which increases the *agni*.

Kandu(pruritis) :[8]Pruritis in Chronic renal failure patient is due to deposition of urea in the skin which cause release of histamine it is a long term consequences of Chronic renal failure, no significant result were seen sin this study.

Hrullas (nausea): [9] Nausea & vomiting in Chronioc renal failure due to centra nervous system effect of raised BUL & Sr.creat or they may be caused due to *kapha pitta prakopa* at *amashaya* with *udan prakop* also *samavastha* present. In this symptom there was significant effect due to *vatashaman* & *kaphaghna* property of *punarnava.* [7]*Mootraghata* is a *vyadhi*

produced due to vitiation of *vata dosha* in *mootravaha srotasa* in this study *punarnva Ghana* is used it reduces *daurbalya* in chronic renal failure patients undergoing haemodialysis

Decreses vitiated *pitta dosha* also & increases *Rasadidhatu* & act as a *Rasayan dravya.*

In this study it was found that the proposed duration of treatment was insufficient to show change in biochemical tests of renal function hence requires a longer time to get significant change in biochemical test like BUN, Sr.creatinine etc.

The interdialysis period was not changed during the study. Further study is necessary for such results. During this study, there were no adverse effects or complications & the treatment was tolerated by all patients.punarnava Ghana is found safe Various researches are carried out worldwide on Punarnava [3] It shows promising activity such as anti-inflammatory, diuretic rejuvenator, Rasayan, appetizer, antihelminthic, hepatoprotective. [6]Punarnava is highly valued in ayurveda as a diuretic,it alleviated the kapha, cures shotha, Pandu, Hrudroga, act as haematinic ,appetizer, reduces oedema & is a diuretic. Review of the previous work done on the subject was done. & this study has unique features a part from them. The study fulfils and clarifies the dipani, shothagni, rasayan, mutravirechniya properties of punarnva as described in drug review and shows significant symptomatic relief in shwas, hrullas, daurbalya, anannabhilasha. In this study chronic renal failure is correlate with mootrakshaya, mutra according to ayurveda. And punarnava can shows significant result in increasing urine output due to its diuretic activity. Punarnava can be used as a supportive treatment for chronic renal failure patients.

Probable Mode of Action (Samprapti bhed) of Tab.Punarnava Ghana in Chronic renal failure/Mootraghat

[6]Extract of Borevia Diffusa having sheet, laghu, ushna, katu rasa vata pittaghna & properties such as mootral, pandughni, dipani , shothaghni.

Due to these it increases urine output, decreses in shofa, decrese in shwas ,& balavriddhi, agnideepana, amapachan Decreses daurbalya & hrullas. Diagnosis of chronic renal failure & treatment of it according to ayurvedic orinciples is necessary & that will definitely help the patient to cure & control the disease & maintainence of their proper health**.** This was a study with some limitations the number of the patients were small the facilities for investigations & for study of the drug were very limited. Further scope of research is considered it is needed to arrange multicentric & large scale studies should be arranged this study has given a hope in using punarnava Ghana as a supportive treatment in patients of chronic renal failure undergoing haemodialysis. there is a need of such type of study & this is only a step.

CONCLUSIONS: From this clinical study,we reach upto the following conclusions- As per the aim of study i.e. To study the efficacy of Extract of borevia diffusa in management of Chronic Renal failure patients undergoing haemodialysis

1) Extract of borevia diffusa is significantly effective in reducing the symptoms of uraemia like shwas (dyspnoea),hrullas(NAUSEA),Daurblaya(weakness)&annnabhilash(Anorexia).

2) it can be used as a supportive medicine in the patients of chronic renal failure undergoing haemodialysis.

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