

**CLINICAL STUDY OF PUNARNAVASTAK KWATH ON LIVER DISORDERS
(IN REFERENCE TO PANDU LAXANA - Anemia)**

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ABSTRACT

It was observed while studying Ayurvedic texts, that the treatment as well as diagnosis is based on “*Dosha theory*”. But very little description is found where the diagnosis & treatment is based on any particular organ. Liver is considered as the biggest factory/manufacturing unit in human & animal body. It not only produces various important elements, but also separates & eliminates the toxins from the body. During this process, liver tissues may often get damaged. So, to protect this vital organ, the present topic is selected for research work which will be helpful to prevent *Pandu laxana* (anemia) which may develop as secondary symptom. On the other hand it will also help to give life to the damaged cells. For the selection of drug of choice for present study, the herbal decoction named ‘*Punarnavastak kwath*’ was selected to check the efficacy on liver disorders on the patients attending OPD, IPD of Smt. K.G.M.P. Ayurved Hospital, Charni Rd., Mumbai. When the indications described in this formula were correlated, they matched with the signs & symptoms of Cirrhosis of liver viz. Anemia, Ascitis, Dyspnoea, Edema etc.*¹ The formulation has shown a highly significant effect symptomatically. The raise in hemoglobin was also significant.

Keywords: *Punarnavastak kwath*, Liver, *Pandu*, *Shodhana*.

INTRODUCTION

The liver is the largest organ in the body. Its functions are like well equipped bio – chemical laboratory where metabolism of all the nutritional substances viz. Carbohydrates, Proteins, Lipids, Vitamins & Minerals takes place and heat is also produced. It is a discrete organ that performs various functions at a time.

- 1) Its vascular functions for storage & filtration of blood.
- 2) Its metabolic functions concerned with the majority of the metabolic systems of the body.
- 3) Its secretary & excretory functions, those are responsive for formation of the bile that flows

through the bile ducts into the gastrointestinal tract.

In recent time, people are more conscious regarding the taste of food rather than their nutritional values. The taste in food develops by the ingredients used for its recipe such as oil, spices, salt etc. But its use in excess quantity for long period of time ultimately causes liver disorders. Moreover nowadays curd, ice cream & cold drinks are also consumed at anytime in excess which is the causative factor for increasing & vitiating the *kapha dosha*. This vitiated *kapha* turns into etiological factor to obstruct the channels.

Consumption of alcohol also tops the list for damaging the liver tissues. The data says, in United States alone, it is estimated that more than seven lakh people consume alcohol so much that they are in grave danger of serious liver disease. The risk increases when the daily consumption is more than 500ml for more than period of 10years. Women are more susceptible to alcoholic injury to the liver than men. Even less intake can cause serious liver disease in them.

Alcohol causes three common liver diseases viz..

- 1) Fatty liver
- 2) Alcoholic hepatitis
- 3) Cirrhosis of liver

And more than 50% of alcoholics are prone to develop Cirrhosis of liver.

In modern medical science, no specific remedy is available for liver disorders. So, as **Dr. Hiranandani has said, 'In the battle against jaundice we must also enlist the help of herbal remedies'.***² So, all hopes are on Ayurveda & other herbal remedies. There are several herbs in Ayurveda which are used for protecting & treating liver diseases, viz...

Daruharidra - Berberis aristata DC.

Kakmachi - Solanum nigrum Linn.

Apamarg - Achyranthes aspera Linn.

Bhunimb (Kalmegh) - Andrographis Paniculata (Burm f.)

Dugd hafeni - Taraxacum officinale Weber.

Kasni - Cichorium intybus Linn.

Parijaat - Nyctanthes arbor-tristis Linn.

Rohitak - Tecoma undulata G.Don.

Sharpunkha - Tephrosia purpurea Pers.

Punarnava - Boerhavia diffusa Linn.

Kumari - Aloe vera Tourn ex Linn.

Katuki - Picrorhiza kurroa Royal ex Benth.

Guduchi - Tinospora cordifolia (wild) Miers ex Hook f.Thoms.

Even the common home remedy, *Haridra* (*Curcuma longa*) which is also a liver protective is widely used in Indian spices, may be the reason that it protects the liver from damage by an Indian diet..!

For present research work, the aim of this study was to choose such a combination that not only acts as liver tonic but also does the purification of liver & body. *Punarnavastak kwath* is not only a liver tonic but also is a biopurifier. The name *punarnava* itself suggests "to bring new life" or to rejuvenate cells. This decoction has multifaceted properties like soothing, purifying & rejuvenating the damaged cells. It also has *shodhana, shamana & rasayana* properties/effects. So, with the help of recent parameters, in present era, my research work is aimed to recheck rejuvenation ability of this decoction. In addition, *Sharangdhara* has advised to take it with *Gomutra*, **as Cow's urine contains urea & that stimulates liver & kidney functions, promotes the process of filtration and excretion of waste material of body through urine.**

Aims & Objectives:

The aim of this study was to check the efficacy of this ancient formulation, *Punarnavastak kwath* on liver & its disorders.

Materials & Methods:

Patients attending the OPD & IPD of Smt. Kamaladevi Gauridutt Mittal Punarvasu Ayurved hospital, Charni Rd., Mumbai fulfilling the criteria had been selected irrespective of their sex, religion etc.. Routine hematological, Urine, Stool examination. Liver profile, USG was also done wherever required. Special research Performa had been prepared & after detail history & examination patients were selected for research work.

Inclusion Criteria:

Patients of liver disorders attending the OPD & IPD of Smt. Kamaladevi Gauridutt Mittal Punarvasu Ayurved Hospital, Charni Rd., Mumbai; fulfilling the criteria had been selected irrespective of their sex, religion etc. was registered for this study.

Criteria of Diagnosis:

The diagnosis was mainly based on the clinical presentation as mentioned in *Madhav Nidana*.

A detailed Performa incorporating all the clinical aspects mentioned for dysfunction of liver (liver disorders) was prepared accordingly, detail clinical history was taken & physical examination was also done.

Criteria for selection of patients:

Patients in the age group of 20 – 50 years were selected for the present study. Other criteria for inclusion were as follows:

➤ Subjective Criteria:

Patients having clinical presentation of Liver disorders as described in *Parishista – Yakrit Rognidana* of *Madhav nidana*.

Patients having either physiological liver dysfunction or anatomical changes were also selected.

➤ Objective Criteria:

Laboratory Investigations:

Following laboratory investigations were carried out before as well as after treatment.

- 1) Routine hematological examination.
- 2) Urine & stool examination.
- 3) Liver profile
- 4) Ultrasonography was carried out.

Exclusion criteria:

- Patients in the age group of less than 20 years & more than 50 years.
- Patients having any sort of malignancy, Koch's patients, Pregnant women, patients suffering from diarrhea.

Method of Preparation of drug:

Punarnavastak kwath comprises of eight herbs namely *Punarnava*, *Haritaki*, *Nimb*, *Daruharidra*, *Katuki*, *Patol*, *Guduchi* & *Sunthi*.

It was prepared as per *kwath nirman vidhi* described in *Sharangdhar Samhita*, *Madhyam khand*-1. All the ingredients were mixed in equal quantity, almost 10 gm (1 *tola*) of all herbs was taken to make decoction in 160ml (16 *tola*) of water & was boiled on moderate heat till it get reduced to 1/4th i.e. 40ml*³

Drug, dose & duration:

40ml approx. 4 *tola* quantity of *kwath* was administered half hour after meals (lunch & dinner).

10ml of *Gomutra* mixed with *kwath*, was preferred as *sahpan*.*⁴

Duration of Treatment:

Duration of treatment was 8 weeks i.e. 2 months.

Criteria of assessment:

The effect of therapy was assessed on the basis of following points,

1. Patients having signs, symptoms described in *Madhav Nidana Parishista**⁵ were selected for the clinical trial & were evaluated by develop-

ing gradation like mild, moderate & severe before & after treatment.

2. Assessment of *Dosha*, *Dushya*, *Srotas* based on their symptoms was also carried out.
3. Laboratory investigations such as CBC, ESR, Liver profile, Urine, Stool, Blood sugar, S.cholesterol were carried out. USG & other investigations were done wherever found necessary & data taken into consideration while statistical calculation.
4. Measurement of Abdominal girth was also done before & after treatment to check *Lekhan* properties of decoction, On the basis of improvement reported by patients, assessment has been done with statistical analysis.

Assessment of overall effect of the therapy: For the overall assessment of the therapy following categories were taken into consideration;

1) Complete remission: 100% relief in sign & symptoms, 2) Marked improvement: more than 75% & less than 100%, 3) Moderate improvement: more than 50% & less than 75%. 4) Mild improvement: more than 25% & less than 50%. 5) Unchanged/ No relief or <25% relief or not considerable relief in sign or symptom.

Follow up study:

Follow up was done every week for 8 weeks i.e.2 months. In follow up study changes in the body were also measured for statistics.

Observation & Results:^{*6}

Out of total 30 patients, 63.33% patients were male & 36.66% were female, 60% pts. Were of age group between 31 – 40 yrs. 12% between 21 – 30 years. By occupation 38% were serviceman, 32% were housewives, 12% were drivers & 28% pts. were either in small scale business, labourers, students or retired persons.

40% belonged to *Rasa saar*, 20% *Rakta*, 18% *Meda* and 22% *Asthisaar*.

40% belonged to *Vaat Pitta Prakruti* (constitution), 12% *Kapha Vaat & Kapha Pitta*, 10% *Pitta Vaat*, 5% *Pitta kapha* & 2% *Vaat kapha*.

Disease wise 37% of patients suffered from *Yakrut Shotha* (Hepatitis), 23% *Yakrut vriddhi* (Hepatomegaly), 12% *kamala* (Jaundice), 10% *Mada tyaya* (Alcoholism), 4% *Yakrutdalyodar*, 6% *Shotha*, 4% *Sannipat Jwar* (Fever) & 4% fatty liver.

Diet wise 23 – 30% were pure vegetarian & 76.60% were non – vegetarian.

43.33% pts. Belonged to *Pravar satva*, 26.66% *Avar satva* & 30% *Madhyam satva*.

50% pts. were of *Mandagni*, 13.33% *Tikshnagni*, 7% *Vishmagni* & 30% *Samagni*. 53.33% belonged to *Madhyam Koshtha*, 16.66% *Mrudu* & 30% *Krur koshtha*.

Habit wise 43.33% pts. were consuming liquor regularly, 13.33% had habit of smoking, 16.66% had habit of chewing tobacco, 16.66% had multiple habits & 26.66% were not addicted to any habits.

Weight reduction was observed in 0.46% & it increased only in 1 pt.

Routine Clinical Check – up:

No markable difference was observed in pulse, B.P., respiration, heart sound. Tongue coating decreased in 96% pts. Sleeping pattern changed in both the ways. 5% pts. Those who were suffering from insomnia started sleeping normally & those who were sleeping excessively, their sleep decreased to normal level, & this sign shows decrement of *Aam*.

Abdominal girth reduced by 1.32%. In liver tenderness 100% result was observed. Hepatomegaly decreased by 87.50%, even in spleen tenderness 75% results was observed.

One pt. having Splenomegaly got complete relief.

DISCUSSION

In the present series, 40 patients fulfilling the criteria for the diagnosis of liver disorders were selected. Out of which 10 patients had left the treatment at different stages while remaining 30 patients completed full course of treatment for period of 8 weeks.

Prakruti wise (constitution) maximum patients belonged to Vaat – Pitta Prakruti, 76.60% patients

were non vegetarian, 43.33% pts. were addicted to alcohol. 60% patients were of age group between 41 – 50yrs & 38% were job persons. These people have more family & social responsibilities so are more prone towards tension & frustration, so for relaxation purpose they consume liquor & invite liver diseases.

a) **Table 1:** Effect on Chief complaints

Complaint	N	%	S.D.	S.E.	T	P	Remark
Panduta	30	50	0.37	0.06	14.74	>0.001	H.S.
Durbalta	27	82.85	1.08	0.19	9.79	>0.001	H.S.
Aruchi	21	87.30	1.23	0.22	8.13	>0.001	H.S.
Avipak	22	92.45	1.24	0.22	7.18	>0.001	H.S.
Tamah pravesh	20	90	0.99	0.18	6.59	>0.001	H.S.
Pipasa	26	91.07	1.31	0.24	7.07	>0.001	H.S.
Angamard	26	83.33	1.11	0.20	8.99	>0.001	H.S.
Chhardi	10	100	1.29	0.23	3.37	<0.001	H.S.
Murchha	7	100	0.59	0.10	2.75	<0.001	H.S.
Angavsad	25	93.18	0.99	0.18	7.48	>0.001	H.S.
Shwas	23	95.65	1.10	0.20	7.26	>0.001	H.S.
Jwar	14	91.66	0.98	0.17	4.09	>0.001	H.S.
Aanah	22	97.61	1.09	0.20	6.81	>0.001	H.S.
Mandagni	24	100	1.09	0.19	8.34	>0.001	H.S.
Kaarshya	18	12.50	0.57	0.10	1.27	<0.10	N.S.
Aasyavairasya	23	88.46	1.22	0.22	6.85	>0.001	H.S.
Parvbhed	25	85.96	0.92	0.16	9.64	>0.001	H.S.
Koshthavaatshool	18	100	1.22	0.22	5.52	>0.001	H.S.
Malagrah	20	96.77	1.20	0.21	4.55	>0.001	H.S.
Mutragrah	10	100	0.46	0.08	1.97	<0.05	S

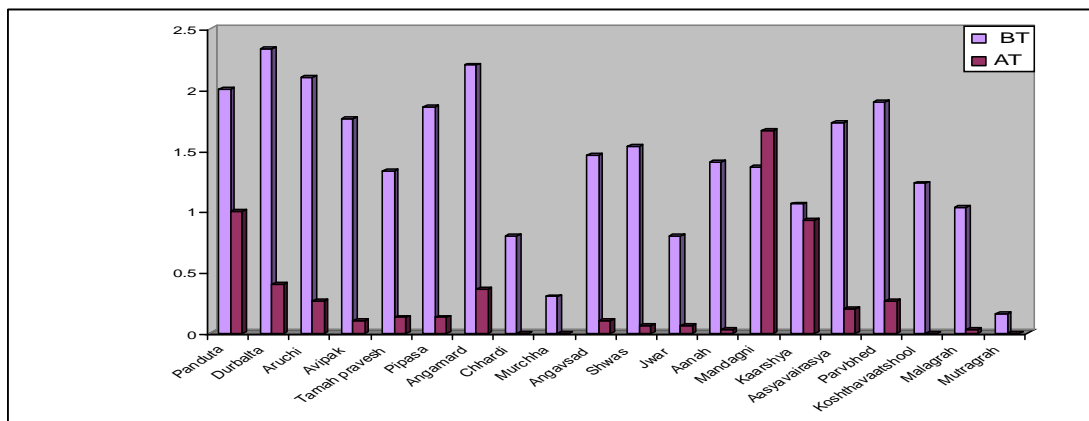
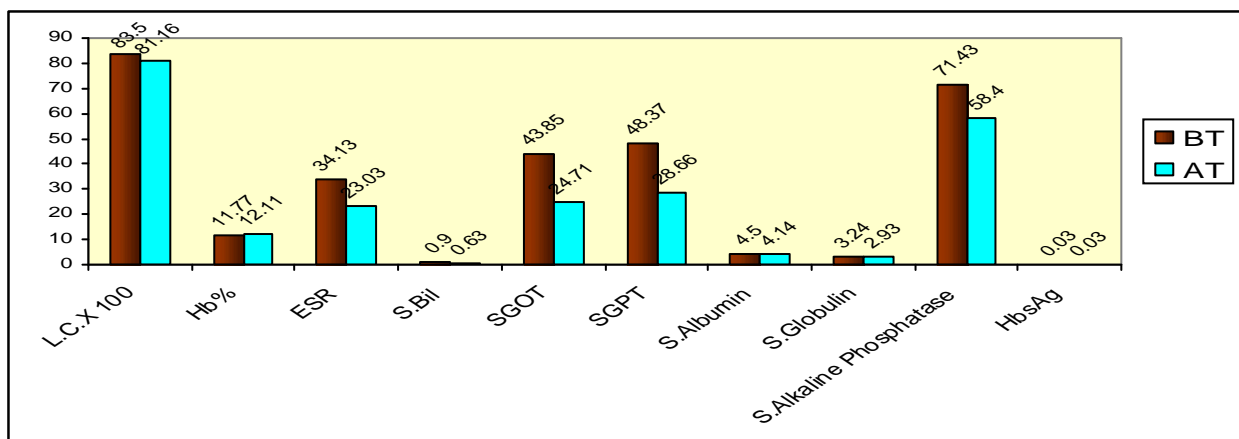


Table 2: Effect on Pathological Investigations.

Investigation	%	S.D.	S.E.	T	P	Remark
L.C.	2.79	992.50	181.20	1.28	<0.10	N.S.
Hb%	2.91	0.77	0.14	2.43	<0.05	S
ESR	32.51	19.36	3.53	3.13	<0.001	H.S.
S.Bil	29.49	0.83	0.15	1.74	<0.05	S
SGOT	28.77	21.77	3.97	3.17	<0.001	H.S.
SGPT	42.06	38.44	7.13	2.85	<0.001	H.S.
S.Albumin	8.08	0.28	0.05	7.00	>0.001	H.S.
S.Globulin	9.51	0.55	0.10	3.06	<0.001	H.S.
S.Alkaline Phosphatase	18.24	19.33	3.53	3.69	>0.001	H.S.
HbsAg	100	0.18	0.03	1.00	<0.10	N.S.



Abdominal girth decreased by 1.32% and so weight reduction by 0.46%. shows that this decoction does *Lekhan karma* (scrapping action), so it can be used for obesity as well.

Tongue coating decreased by 95.66% suggests that it improves the digestive power & removes toxins, and increases the absorption. Excessive sleep is the symptom of rheumatism, which may be followed by obstruction in hepatobiliary tract. This decoction cleans the tract, so it improves digestion & reverses the pathology of rheumatism, so patient gets proper sleep.

Fluid retention is cleared by the diuretic property of *Punarnava*. Excellent results observed in hepatitis & hepatomegaly, 100% & 87.50% respectively, but no change was observed in cirrhosis of liver

this suggests that it **does not rejuvenates the liver cells.**

Little improvement was observed in Hb%, only 2.91% (P<0.05). But WBC count increased by 2.79% (P<0.10), suggests that it does the *rasayana karma* & increases the immunity. Markable difference was observed in ESR by 32.51% (P<0.001) suggests that it excretes the toxic material, brings lightness to body. Good results (P <0.05 to >0.001) were observed for S.bil, SGOT, SGPT, S.protein, S.alkaline phosphatase, S.cholesterol and Bl. sugar (see table), so can also be used for hepatitis, hyperlipidemia & diabetes.

Urine quantity increased by 15.86%, so it is a good diuretic & can be used in renal dysfunction (P<0.05).

Overall clinical symptoms relieved by **80.42%**, which shows that it is a good liver tonic, blood purifier & also a good bio-purifier.

Effect of Therapy:

Out of total 40 pts. registered, 30 had completed the treatment & gave post treatment investigation report, so those were considered for statistics. *Punarnavastak kwath* provided highly significant relief ($p < / > 0.001$) on chief complaints like *Aruchi* (anorexia), *Avipak* (Indigestion), *Chhardi* (vomiting), *Shwas* (dyspnoea), *Aanah* (abdominal distention), *Aasya vairasya* (loss of taste), *Malagrah* (constipation), *Mutragrah* (retention of urine) & other associated symptoms like *Dourbalya* (debility), *Pipasa* (thirst), *Angamarda* (body ache), *Angavsad* (fatigue), *Jwar* (fever), *Mandagni* (loss of digestion power), *Parvabheda* (pain in phalanges), *Koshtavat shool* (abd.pain) etc... Symptomatically **80.42%** result occurred, so we can say that it's very effective on symptoms of liver disorders.

As per laboratory investigations, Hb increased by **2.91%** only, so no markable raise was observed in it, but regarding other investigations & clinical signs, good improvement was observed (table 1). Decrement in ESR suggests that it clears the toxicity, *Aam* from body. Changes in liver profile proves that this decoction is good liver purifier, so can be used in Hepatitis, Hepatomegaly & other liver disorders, no change was observed in fatty liver & cirrhosis of liver.! Before starting the research it was my belief that as per the name "*Punarnava*" suggests, this decoction might have the potency to rejuvenate the cells but it proved to be a false assumption! Decoction also showed good action against worms, as no worms were found in stool examination after the treatment. In 1 patient of amoeba good result was observed. In urine examination, eye catching results were observed. Pus cells, bile salts, epithelial cells, sugar, crystals of ca – oxalate, mucus either reduced or disappeared

in post investigation. So it's good diuretic & urine purifier. It can also be used for the treatment of **renal calculi, Prameha & UTI.**

Mode of Action:

The contents of *Punarnavastak kwath* are as follows:

- 1) *Punarnava*: *Boerhavia diffusa* Linn.
- 2) *Haritaki* : *Terminalia chebula* Retz.
- 3) *Nimb* : *Azadirachta indica* A.Juss.
- 4) *Daruharidra*: *Berberis aristata* DC.
- 5) *Katuki*: *Picrorhiza kurroa* Royal ex Benth.
- 6) *Patol* : *Trichosanthes dioica* Roxb.
- 7) *Guduchi* : *Tinospora cordifolia* (wild) Miers ex Hook f.Thoms.
- 8) *Shunthi* : *Zingiber officinale* Rosc.

The mean attributes of all these 8 herbs are:

Rasa : *Tikta, Kashaya*

Guna : *Laghu, Ruksha*

Virya : *Ushna*

Vipaka : *Katu, Madhur*

Due to *Laghu* (lightness) & *Ruksha* (dry) guna, this decoction possesses the *Lekhan* (scrapping) property that brings lightness and clears obstruction by removing vitiated *kapha*. That's the reason by which the patients got relief in symptoms like *Angamarda* and *Angavsad*.

Tikta rasa does *Pittashaman*, *Kashaya rasa* absorbs the *kapha*, *Katu rasa* clears the obstruction of *kapha*, and *Madhur Vipaka* of *Shunthi* soothes *Pitta*.

Ushna virya does *Abhyantar Sweden karma* (Internal sudation), as a result stickled *Dosha* (*leen Dosha*) of *Shakha* gets liquefied & travels towards *koshtha*. The herbs like *Haritaki* and *katuka* expels them through anus. *Ushna virya* brings lightness to body by *Aampachan*.

Due to special combination of these herbs, *Shaman* is possible with *Punarnastak kwath*. In addition to

that it also does bio purification through urination & defecation by the herbs like *Punarnava* & *Kutki* respectively.

Cow's urine (*Gomutra*) also has *Katu – Tikta rasa, Ushna virya, Tikshna, Laghu* properties & *Kapha Vat Shamak, Pittakarak* attributes. These are similar to those of eight herbs. It promotes urination due to urea in it, so it helps in bio- purification. It also has holistic approach.

CONCLUSION

Punarnavastak kwath is **excellent hepato protective** & can be used for almost all kind of liver disorders **but it's not much effective for the treatment of anemia**, as all the contents are herbs, which alone are incapable to treat anemia. So, any sort of iron combination should also be given along with *Punarnavastak kwath* to treat anemia. It's good for bio purification, so should be used where *Panchakarma* (traditional Ayurvedic bio-purification methods) is contra indicated, such as DM, Koch's disease, Hypertension, Heart disease. It can be used as supportive medicine to treat obesity. It is excellent diuretic, so it should be used to treat renal disease, UTI, Ascitis, Rheumatism and edema. It is helpful to treat constipation due to purgative action of *kutki*.

REFERENCES

1. API, 8TH Edition, page 698
2. Illustrated weekly of India, 14th Jan.1997, 'YELLOW PERIL' article by Dr. L. H. Hiranadani.
3. *Sharangdhar Samhita, Madhyam khand*, Chapter 2/1,2, page – 213, 2nd edition - 1965 Sastu sahitya mudranalaya, Ahmedabad
4. *Sharangdhar Samhita, Madhyam khand*, Chapter 2/77-78, page – 230, 2nd edition-1965, Sastu sahitya mudranalaya, Ahmedabad
5. *Madhav Nidan, Uttardardha, Parishista – Yakrit Rog Nidanam*, Author – Shri Sudarshan Shastri, Chaukhambha sanskrit samsthan, Varanasi, page 467,468
6. M.D.Thesis of Mukesh Rawal (Year 2000), - Kayachikitsa, Smt K.G.M.P.Ayurved Mahavidyalaya, Charni Rd., Mumbai, University, Mumbai. Reg.No: 13/Mittal – 20/01/1998

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