Indian Journal of Traditional Knowledge
Vol. 4(4), October 2005, pp. 416-420

Effect of *Kabdeen* in *Warm-e-Kabid Vairoosi* (viral hepatitis)

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Received 2 August 2004; revised 11 March 2005

The therapeutic evaluation of a polyherbal non-pharmacopoeial Unani formulation *Kabdeen* in 50 patients of *Warm-e-Kabid Vairoosi* (viral hepatitis) revealed an over all clinical improvement in about 75.17 % at the end of 3rd week and 87.54 % at the end of 6th week, while 42.1 % improvement was observed in cases of hepatitis B. Out of 19 hepatitis B positive cases, 8 cases showed Australian antigen test negative. It was also observed during the study that the test drug not only restores the normal functioning of the liver but also has no side effects.

Keywords: Viral hepatitis, *Warm-e-Kabid Vairoosi*, *Kabdeen*, Antiinflammatory Activity Hepatoprotective Activity, Antioxidants activity, Antiviral Activity, Unani Medicine, Nephrotoxicity

IPC Int. Cl.[7]: A61K35/78, A61P1/04, A61P1/06, A61P1/08, A61P1/14, A61P1/16, A61P7/06, A61P31/02, A61P41/00, A61P43/00

Even though the horizon of medical science is expanding with acquisition of more and more knowledge about diseases and their management, the wish of man for a healthy living still remains unfulfilled. However, with the advent of advanced diagnostic tools and techniques, now the fighting strategy of man against diseases has drastically undergone, a sort of metamorphosis. This is true especially for the management of many tropical diseases. Viral hepatitis is one of the important tropical diseases responsible for significant morbidity and mortality in developing countries including India.

Liver, the largest gland of the body, receives blood supply from both systemic and portal routes and thus is at a high risk to infections by viruses via the dual routes. The list of hepatotropic viruses is very long, basically they are either RNA (Fig. 1) or DNA (Fig. 2) and share the ability to target the liver cells.

Warm-e-Kabid Vairoosi (Viral Hepatitis) is a systemic infection that affects liver predominantly, causing a significant morbidity and mortality. The first reference to jaundice is ascribed to Hippocrates. According to the ancient Unani physicians, it was referred to as an abnormal state of humour, caused by excessive intake of meat, alcohol, oily and spicy food, sweet preparations, improper diet and increased production of *Safra* (Bile). However, as the advanced microbiological researches have produced enormous information and knowledge about the etiology of diseases, several serologically and structurally distinct viruses, which are transmitted either horizontally or vertically, have been regarded responsible for this disease. The discovery of serological markers has made it possible to make out exactly the specific type of hepatitis. Usually viral hepatitis is caused by one or more of the five viral agents i.e. Hepatitis-A (HAV), Hepatitis-B (HBV), Hepatitis-C (HCV), Hepatitis-D (HDV) and Hepatitis-E (HEV). A sixth agent Hepatitis-G (HGV), has been discovered but its role in the ailment is yet to be established. Among all, Hepatitis-A is considered to be highly infectious while Hepatitis-B as one of the most grievous viral infections known so far. Efforts are on in all medical sciences to evolve drug for combating this dreadful disease. In Unani System of Medicine, plants as a whole or their parts are extensively used for the cure of liver derangements[1-4].

Methodology

The study was conducted on 50 patients in Ajmal Khan Tibbiya College Hospital, Aligarh Muslim University, Aligarh during a period of two years. Detailed history regarding illness and possible source of infection, physical examination, liver function test and Hepatitis panel was made out for diagnostic and prognostic purposes. Kidney functions were also

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assessed to rule out any possible nephro-toxicity. *Kabdeen* [(a polyherbal non- pharmacopoeial formulation), Table 1] was given in a dose of 10 ml 8 hourly for a period of 6 weeks. Results were analyzed statistically using the non-parametric chi-square test and the paired sample test.

Table 1—Composition of Kabdeen in each 5 ml

Constituents	Botanical name	Quantity (in mg)
Balchar	*Valeriana jatamansi* Jones	80
Branjasif	*Achillea mellifolium* Linn.	160
Bekh-Kasni	*Cichorium intybus* Linn.	80
Tukhm-e-Bathua	*Chenopodium album* Linn.	80
Tukhm-e-Khayaren	*Cucumis sativus* Linn.	80
Tukhm-e-Kasni	*Cichorium intybus* Linn.	160
Tukhm-e-Kasoos	*Cuscuta reflexa* Roxb.	80
Chiraita shireen	*Swertia chirata* Karst.	40
Khoolanjan	*Alpinia galanga* Willd.	80
Rewand Chini	*Rheum emodi* Wall. ex Meissn.	40
Shahatra	*Fumaria officinalis* Linn.	80
Satar Farsi	*Zataria multiflora* Boiss.	80
Ushba Maghrabi	*Smilax aspera* Linn.	80
Uood-e-Hindi	*Aquilaria agallocha* Roxb.	80
Kasondi	*Cassia occidentalis* Linn.	80
Gul-e-Tesu	*Butea monosperma* (Lam.) Kuntze	160
Gul-e-Surkh	*Rosa damascena* Mill.	40
Gul-e-Ghafis	*Gentiana olivieri* Griseb.	160
Gul-e-Nelofar	*Nymphaea alba* Linn.	80
Mako	*Solanum nigrum* Linn.	160
Nar Mushk	*Mesua ferrea* Linn.	80
Qand Safaid	Sugar	4.5Gm

Results and Discussion

Several herbo-animo-minerals used in traditional systems of medicine have been identified as being effective in hepatic disorders. Most of them are useful in maintaining liver functions and subsiding hepatic toxicity of different nature because of being hepato-protective. The test drug produced striking hepatoprotective effect on the patients of viral hepatitis in terms of subsiding its signs and symptoms (Table 2) and brought down the level of serum billirubin (Table 3 & Fig. 3), marker enzymes of liver function, because elevation of marker enzymes like Serum Transaminases (ALT & AST), Serum Alkaline Phosphatase, Lactate dehydrogenase (Table 4 & Fig. 4-5) and Prothrombin time are important indications of liver damage (Table 5 & Fig. 6)[5-7].

The dramatic improvement in clinical features and speedy biochemical recovery may be attributed to various constituents of *Kabdeen* e.g. *Mako* (*Solanum nigrum* Linn.), *Kasni* (*Cichorium intybus* Linn.), *Shahatra (Fumaria officinalis* Linn.), *Branjasif* (*Aquilaria agallocha* Roxb.) and *Gul-e-Ghafis* (*Gentiana dahurica* Fisch. Syn. *G. olivieri* Griseb.) which have choleretic and cholagogue properties and a strong hepatoprotective effect[8-10]. These drugs also facilitate flow of bile by producing contractions in bile canaliculi and thusit help in correcting the intra-

Table 2—Incidence of different signs/symptoms in three phases of the study

Symptoms/Signs	Sample size = 50					
	0 day		End of 3rd week		End of 6th week	
	No	%	No	%	No	%
			Improvement		Improvement	
Jaundice	48	96.0	06	87.5	00.0	100.0
Anorexia	46	92.0	01	97.8	00.0	100.0
Nausea	31	62.0	00	100.0	00.0	100.0
Vomiting	07	14.0	00	100.0	00.0	100.0
Fever	19	38.0	04	79.0	00.0	100.0
Aversion for smoking	17	34.0	03	82.4	00.0	100.0
Pain in abdomen	27	54.0	02	92.6	00.0	100.0
Muscle cramps	20	40.0	06	70.0	00.0	100.0
Arthralgia	05	10.0	05	00.0	02.0	60.0
Distaste	29	58.0	01	96.5	00.0	100.0
Loss of weight	10	20.0	09	10.0	08.0	20.0
Dark urine	46	92.0	05	89.1	00.0	100.0
Dark stool	24	48.0	00	100.0	00.0	100.0
Icterus	48	96.0	06	87.5	00.0	100.0
Hepatomegaly	24	48.0	06	75.0	01.0	95.8
Splenomegaly	07	14.0	01	85.7	00.0	100.0
Lymph-adenopathy	01	02.0	01	00.0	01.0	00.0
Palmer erythema	03	06.0	00	100.0	00.0	100.0

hepatic cholestatic jaundice. *Cassia occidentalis* Linn. (*Kasondi*) having antiinflammatory properties helps in subsiding the inflammatory process in the liver. *Mako* and *Kasni* normalize raised the levels of Serum Trans-aminases, Serum Alkaline Phosphatase and Lactate de-Hydrogenase. Moreover, *Mako* prevents the formation of collagenous substances in hepatic architecture and helps in preventing dreadful complications like hepatic cirrhosis. *Swertia chirata* Karst. (*Chiraita shireen*) containing an alkaloid andrographolide possesses hepatoprotective and antiviral properties[9-12]. Similarly, *Tukhm-e-Kasoos* (*Cuscuta reflexa* Roxb.) contains a specific protein, which also has antiviral properties. *Kasni* possesses antioxidant properties and prevents the damage to DNA by free radicals[13]. It also inhibits susceptibility of plasma lipo-proteins to oxidation causing free radical damage. It is likely that during the replication of DNA, these drugs might interfere with the faithful copying of DNA to new daughter DNA by virtue of interference in DNA polymerase enzyme which negative the Australian antigen test (Table 5 & Fig.7).

Conclusion

Kabdeen revealed an over all clinical improvement in patients of viral hepatitis 75.17 percent (at the end of 3rd week) and 87.54 percent (at the end of 6th week), while 42.1 percent improvement was observed in cases of hepatitis B. Out of Nineteen hepatitis B positive cases, eight cases showed Australian Antigen Test negative. It was also observed during the study that the test drug not only restored the normal functioning of the liver but also showed no side effects. The large variation between treated and controlled titer value of C-reactive protein is obvious. It is an acute phase protein, which increases many folds in any inflammatory condition after 12 hour of inflammation, and it comes to normal very quickly after the recovery from infection or inflammation. The active constituent colchicine is not reported to commonly cause liver damage[14]. On the contrary, it improves liver function in primary biliary cirrhosis[15]. It may cause nephrotoxicity only on acute poisoning.

Table 3—Weekly effect of *Kabdeen* on Mean Serum Bilirubin in mg percentage

n = 50

Duration (in weeks)	Before treatment	After treatment						P value
	0	1	2	3	4	5	6	
Serum Bilirubin (Total)	8.04	8.24	3.44	1.69	1.09	1.04	1.01	P< 0.0001
Serum Bilirubin (Direct)	4.51	3.72	1.59	0.80	0.51	0.48	0.49	P<0.0001
Serum Bilirubin (Indirect)	4.51	4.52	1.85	0.89	0.58	0.56	0.52	P<0.0001

Table 4—Weekly effect of *Kabdeen* on (Mean Serum Transaminases in I.U & Mean Serum Alkaline Phosphatase in K-Au/ml)

n = 50

Duration in weeks	Before treatment	After treatment						P value
	0	1	2	3	4	5	6	
Aspertate Transaminase (AST)	92.71	93.41	55.40	39.39	31.44	28.30	24.46	P<0.001
Alanine Transaminase (ALT)	85.76	63.78	48.40	37.78	28.90	24.00	21.22	P<0.0001
Serum Alkaline Phosphats	18.79	18.12	12.36	10.80	09.68	08.88	07.21	P<0.0001
Lactate Dehydrogenase (LDH)	251.56	—	—	—	169.04	—	160.64	P<0.001

Table 5—Effect of *Kabdeen* on Mean Prothrombin time in seconds (n = 50) & Australia Antigen (HBsAg) n = 19

Duration (in weeks)	Before treatment 0	After treatment 4	6	P value
Prothrombin Time (Patients)	19.06	15.38	14.46	P<0.0001
Prothrombin Time (Standard)	13.24	13.24	13.24	P<0.0000
Australia Antigen Test 19 Cases (38 %) Positive		—	8 Cases (42.1 %) Negative	

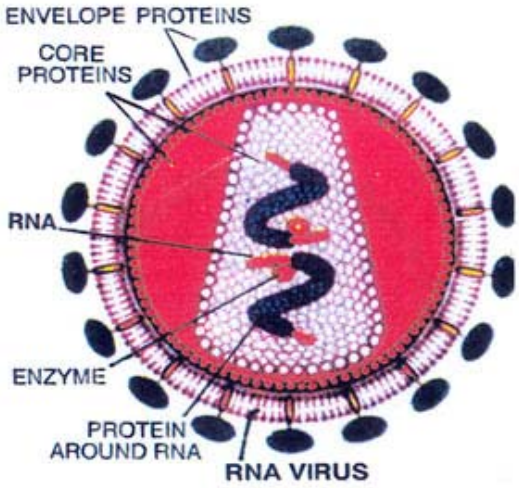

Fig. 1- Schematic diagram of RNA virus

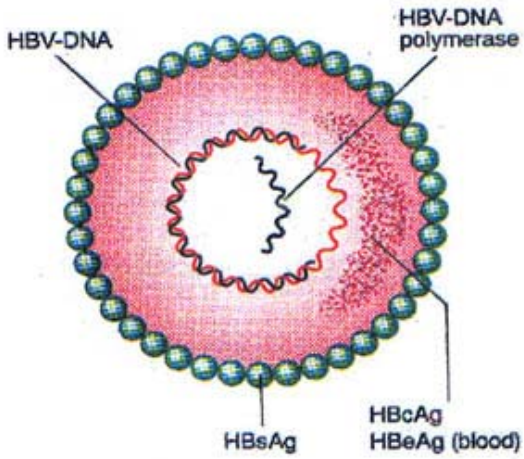

Fig. 2- Schematic diagram of DNA virus

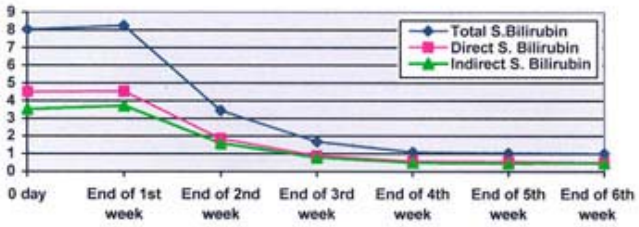

Fig.3- Showing effect of *Kabdeen* on Mean Serum Bilirubin in mg %

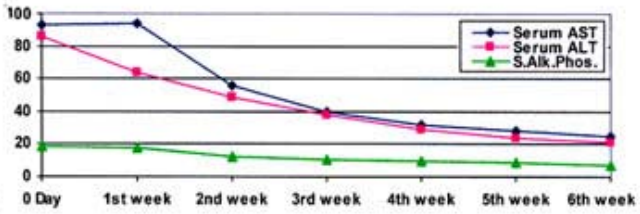

Fig. 4- Showing effect of *Kabdeen* on Mean S.AST, S.ALT and S. Alk. Phosph.

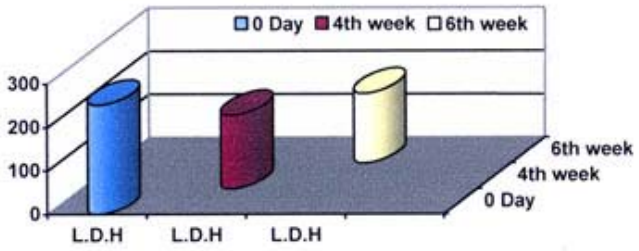

Fig. 5- Showing weekly effect of *Kabdeen* on Mean Lactate Dehydrogenase

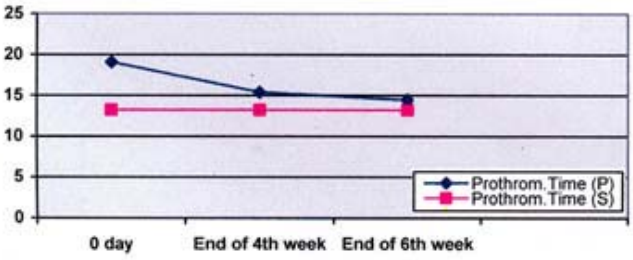

Fig. 6- Showing effect of *Kabdeen* on Mean Prothrombin Time

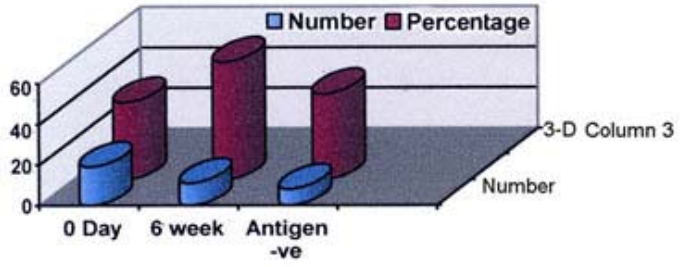

Fig. 7- Showing effect of *Kabdeen* on Australia Antigen

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