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ROLE OF AYURVEDA IN THE MANAGEMENT OF KAMALA (HEPATITIS B) – A SINGLE CASE STUDY

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ABSTRACT

Hepatitis B virus (HBV)[1] infects more than 300 million people worldwide and is a common cause of liver disease and liver cancer. HBV, a member of the Hepadnaviridae family, is a small DNA virus with unusual features similar to retroviruses. HBV replicates through an RNA intermediate and can integrate into the host genome. The unique features of the HBV replication cycle confer a distinct ability of the virus to persist in infected cells. Virological and serological assays have been developed for diagnosis of various forms of HBV-associated disease and for treatment of chronic hepatitis B infection. HBV infection leads to a wide spectrum of liver disease ranging from acute (including fulminant hepatic failure) to chronic hepatitis, cirrhosis, and hepatocellular carcinoma. Acute HBV infection can be either asymptomatic or present with symptomatic acute hepatitis. Most adults infected with the virus recover, but 5%–10% are unable to clear the virus and become chronically infected. Many chronically infected persons have mild liver disease with little or no long-term morbidity or mortality. The present article deals with the diagnosis of Hepatitis B virus positive. The Ayurvedic diagnosis is kamala was made and managed with sodhana and shamana aushadhi. Two assessments were made before and after treatment with Hepatitis B viral load. Improvement was noticed in the symptoms of Aruchi, Hrullasa, Vibanda, Twak rookshatha, Alpa nidrta, Mandagni, manasika vikaras were reduced and Hepatitis B virus negative.

KEYWORDS: *Kamala, Hepatitis B, Sodhana, Shamana aushadhi.*

INTRODUCTION

In Ayurveda, Kamala has been mentioned as a sequel of Pandu roga.[2] When Pandurogi indulges in excessive paithika ahara and viharas the pitta gets aggravated and leads to Kamala. Gangadhara described that Kamala as nidhanarthakara roga of Pandu. Chakrapani described it as Paratantra Kamala. Susruta regarded Kamala as a synonym of Pandu and considered it is as an advanced stage of Pandu. He designated it as Kamala as it is characterized by a special set of symptoms. Dalhana while commenting upon the word "Amayante" described "Amayante anayarogante ca" means Kamala may occur after Pandu roga or after other rogas too. By amla bhojana and apathya (un-wholesome diet) bhojana at the end of Pandu or any other roga, pitta gets aggravated and produces Kamala. Haridra netra mutra twak (Yellowish discolouration of eyes, mouth, skin & nails), Shwetavarchas(White coloured stools), Vishtambha (Constipation), Atopa (Flatulence), Alpagni (Indigestion), Aruchi (Anorexia) Jwara (Fever), Dourbalya (Weakness), Hrudaya Gourava (epigastric discomfort), Hikka (Hiccough), Shwasa (Dyspnoea) are the clinical features.

Hepatitis B is an infectious disease caused by the Hepatitis B virues (HBV) that affects the liver it is a type of viral hepatitis. It can cause both acute and chronic infection. Many people have no symptoms during the initial infection. In acute infection, some may develop a rapid onset of sickness with vomiting, yellowish skin, tiredness, dark urine, and abdominal pain. Often these symptoms last a few weeks and rarely does the initial infection result in death. It may take 30 to 180 days for symptoms to begin. In those who get infected around the time of birth 90% develop chronic hepatitis B while less than 10% of those infected after the age of five do. Most of those with chronic disease have no symptoms; however, cirrhosis and liver cancer may eventually develop. Cirrhosis or liver cancer occur in about 25% of those with chronic disease.

The virus is transmitted by exposure to infectious blood or body fluids infection around the time of birth or from contact with other people's blood during childhood is the most frequent method by which hepatitis B is acquired in areas where the disease is common. In areas where the disease is rare, intravenous drug use and sexual intercourse are the most frequent routes of infection. Other risk factors include working in healthcare, blood transfusion , dialysis , living with an infected person, travel in countries where the infection rate is high, and living in an institution. Tattooing and acupuncture led to a significant number of cases in the 1980s; however, this has become less common with improved sterilization. The hepatitis

B viruses cannot be spread by holding hands, sharing eating utensils, kissing, hugging, coughing, sneezing, or breastfeeding. The infection can be diagnosed 30 to 60 days after exposure. The diagnosis is usually confirmed by testing the blood for parts of the virus and for antibodies against the virus. It is one of five main hepatitis viruses: A,B, C, D, and E.

About a third of the world population has been infected at one point in their lives. At least 391 million people, or 5% of the world's population, had chronic HBV infection as of 2017. While another 145 million cases of acute HBV infection occurred that year. Over 750,000 people die of hepatitis B each year. About 300,000 of these are due to liver cancer. The disease is most common in the Western Pacific (6.2%) and African (6.1%) regions. In Europe rates are 1.6% and in the Americas they are 0.7%. It was originally known as "serum hepatitis".

MATERIALS AND METHODS

A 46 year old female patient visited Pandith Taranath Government Ayurvedic Medical College and Hospital Ballari on 7/ 01/2020 with a complaints of Aruchi, Hrullasa, Rukshata, Alpanidrata, peeta mutrata, Agni mandyata, increased in weight, Atichinta, vishada Soka, Bhaya, Kroda.

HISTORY

Patient apparently normal before 3 years, due to irregular menstruation and also left ovarian cyst doctor was advised for hysterectomy after investigating the blood, suddenly known about hepatitis B positive. Patient gradually developed Aruchi, Hrullasa, Rukshata, Alpanidrata, Peeta mutrata, Agnimandya, Weightgain, Atichinta, vishada Shoka, Bhaya, Krodha. The patient was taken allopathic medication. patient didn’t get satisfactory relief and came to Pandith Taranath Government Ayurvedic Medical College and Hospital Ballari on 7/ 01/2020 on opd bases treatment started.

Treatment

Deepana pachana with panchakola churna[3] 6gms tid B/Fwith luke warm water for 3 days

Snehapana with Bhramhi gritha[4]

DAY	GRITHA IN ML
1	40 ml (test dose)
2	75ml
3	75ml
4	75ml

Assessment of Sneha Siddi lakshana

Sl.no	Sneha Snig Siddi lakshana	Day-1	Day-2	Day-3	Day-4
01	Agnidipti				+
02	SnehaDwesha				+
03	Angalaghavata			+	
04	Gatramriduta			+	
05	Purishasnigdhata				+
06	Twaksnigdhata			+	
07	Vatanulomana			+	+
08	AdhostadSnehadarshana				
09	Klamaha		+	+	+
10	Angashaitilya				+
11	Glani			+	+
12	AsamhataVarchas			+	+

Vishrama Kala: -sarvangaAbhyanga with Madhuyastyadi Taila for X 3 days, sarvanga basapasweda.

Samyaka Sweda Lakshnas

Lakshna's	Day 1	Day 2	Day 3
Sheetoparama		+	+
Shuloparama		+	+
GauravaNigraha			+
Mardava(Mriduta)			
SwedaPradurbhaava		+	+
RogaLakshanaprashamana			
Sheetaartitvam.			+

Virechana

Trivrith lehya - 40 gms

Date: - 18/01/2020

Number of Vega's: - 5

Assessment of Shodhana Karma

Samyak Virechanayoga Lakshana

Srotovishuddi	+
Indriya prasad	+
Laghuta	+
Agnivruddi	+
Anamayatvam	+
Kramat Vit Pitta Kaphagamana	
Vatanulomana	+
Absence of Atiyoga	+

Samanoshadi

1st SITTING (48 DAYS)

1) Arogyavardini vati[5] 1-1-1 A/F
2) Patolakaturohinyadi kashyam[6] 25ml-0-25ml B/F
3) Bilex powder 1tsp-0-1tsp B/F
4) Rohitkarista[7] 25ml-0-25ml A/F

2nd SITTING (48 DAYS)

1) Arogyavardini vati 1-1-1 A/F
2) Punarnavamandura[8] 1-1-1 A/F
3) Pippalysava[9] 25ml-0-25mlB/F
4) Katukarohini churna +vindanga churna +Amalaki churna +Abhya churna 1tasp-1tsp-1tsp B/F

3rd SITTING (48 DAYS)

1) Arogyavardini vati 1-1-1 A/F
2) Punarnavamandura 1-1-1 A/F
3) Laghusoothasekara rasa[10] 1-1-1 B/F
4) Rohitkarista 25ml-0-25ml A/F
5) Pippali moola churna + kirtatikta churna+ Godhanti bhsama+ Gandhaka rasayna 1tsp-0-1tspB/F

4th SITTING (48 DAYS)

1) Arogyavardini vati 1-1-1 A/F
2) Patolakaturohinyadi kashyam 25ml-0-25ml B/F
3) Bilex powder 1tsp-0-1tsp B/F
4) Rohitkarista 25ml-0-25ml A/F

Sl. No.	Assessment Criteria	SCORE	BT	During treatment	AF
1	Aruchi	0			+
		1		+	
		2			
		3	+		
2	Hrullasa	0			+
		1		+	
		2	+		
		3			
3	Rukshata	0			

		1		+	+
		2			
		3	+		
4	Alpanidrata	0			+
		1		+	
		2	+		
		3			
5	Peeta mutarta	0			+
		1		+	
		2			
		3	+		
6	Agni mandyata	0			+
		1		+	
		2			
		3	+		

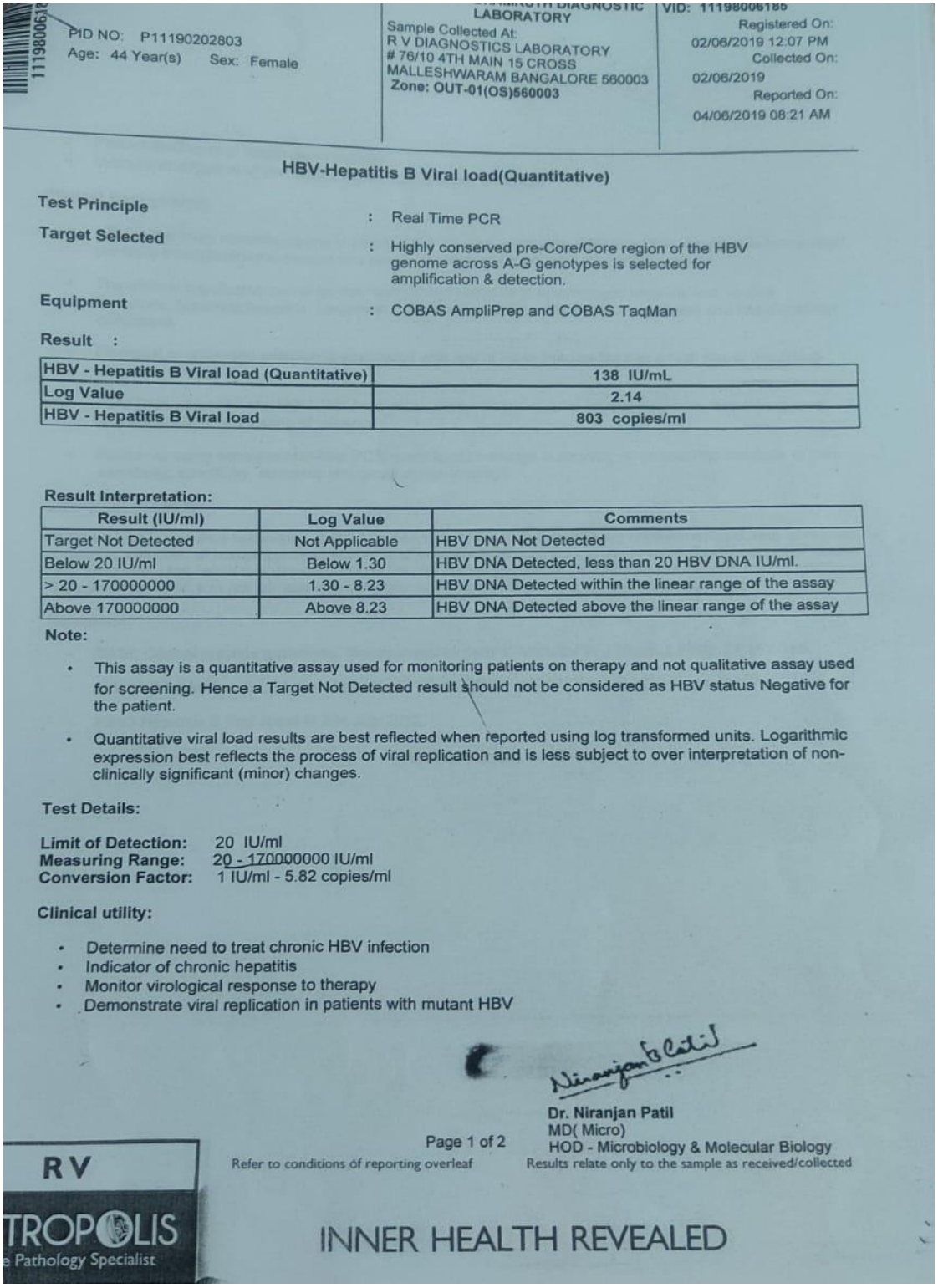
OBJECTIVE PARAMETERS

Sl no	Assesment Criteria	BT	AT
1	HB%	12.8gms%	12.4gms%
2	Prothrombin time	13 sec	13.2 sec
3	INR (PTINR)	32sec	30 sec
4	LFT TOTAL BILLIRUBBIN	1.0Mg%	0.7 Mg%
5	DIRECT BILLIRUBBIN	0.6 Mg%	0.4 Mg%
6	INDIRECT BILLIRUBBIN	0.4 Mg%	0.3 Mg%
7	SGOT	30 IU/L	25.3 IU/L
8	SGPT	40 IU/L	19.1 IU/L
9	TOTAL PROTEIN	7.0g/dl	7.0g/dl
10	SERUM ALBUMIN	3.9g/dl	3.9g/dl
11	GGT	3.0g/dl	2.9g/dl
12	A/G ratio	1.4	1.3
13	ANTI TPO	250.6IU/ml	355.9IU/ml
14	TSH	11.247UIu/ml	2.000UIu/m
15	T3	2.8pg/dl	2.96pg/dl
16	T4	0.98ng/ml	1.64ng/dl
17	ESTRADIOL	387.2pg/ml	
18	HEP B(VIRAL LOAD)	803 copies/ml	Not detected

USG changes and Others

Before treatment:- 1)Right renal calculi 2)Left ovarian cyst 3)Fatty liver

Before treatment Hepatitis B viral load



PID NO: P11190202803
Age: 44 Year(s) Sex: Female

LABORATORY
Sample Collected At:
R V DIAGNOSTICS LABORATORY
76/10 4TH MAIN 15 CROSS
MALLESHWARAM BANGALORE 560003
Zone: OUT-01(OS)560003

VID: 11198006185
Registered On:
02/06/2019 12:07 PM
Collected On:
02/06/2019
Reported On:
04/06/2019 08:21 AM

HBV-Hepatitis B Viral load(Quantitative)

Test Principle : Real Time PCR

Target Selected : Highly conserved pre-Core/Core region of the HBV genome across A-G genotypes is selected for amplification & detection.

Equipment : COBAS AmpliPrep and COBAS TaqMan

Result :

HBV - Hepatitis B Viral load (Quantitative)	138 IU/mL
Log Value	2.14
HBV - Hepatitis B Viral load	803 copies/ml

Result Interpretation:

Result (IU/ml)	Log Value	Comments
Target Not Detected	Not Applicable	HBV DNA Not Detected
Below 20 IU/ml	Below 1.30	HBV DNA Detected, less than 20 HBV DNA IU/ml.
> 20 - 170000000	1.30 - 8.23	HBV DNA Detected within the linear range of the assay
Above 170000000	Above 8.23	HBV DNA Detected above the linear range of the assay

Note:

- This assay is a quantitative assay used for monitoring patients on therapy and not qualitative assay used for screening. Hence a Target Not Detected result should not be considered as HBV status Negative for the patient.
- Quantitative viral load results are best reflected when reported using log transformed units. Logarithmic expression best reflects the process of viral replication and is less subject to over interpretation of non-clinically significant (minor) changes.

Test Details:

Limit of Detection: 20 IU/ml
Measuring Range: 20 - 170000000 IU/ml
Conversion Factor: 1 IU/ml - 5.82 copies/ml

Clinical utility:

- Determine need to treat chronic HBV infection
- Indicator of chronic hepatitis
- Monitor virological response to therapy
- Demonstrate viral replication in patients with mutant HBV

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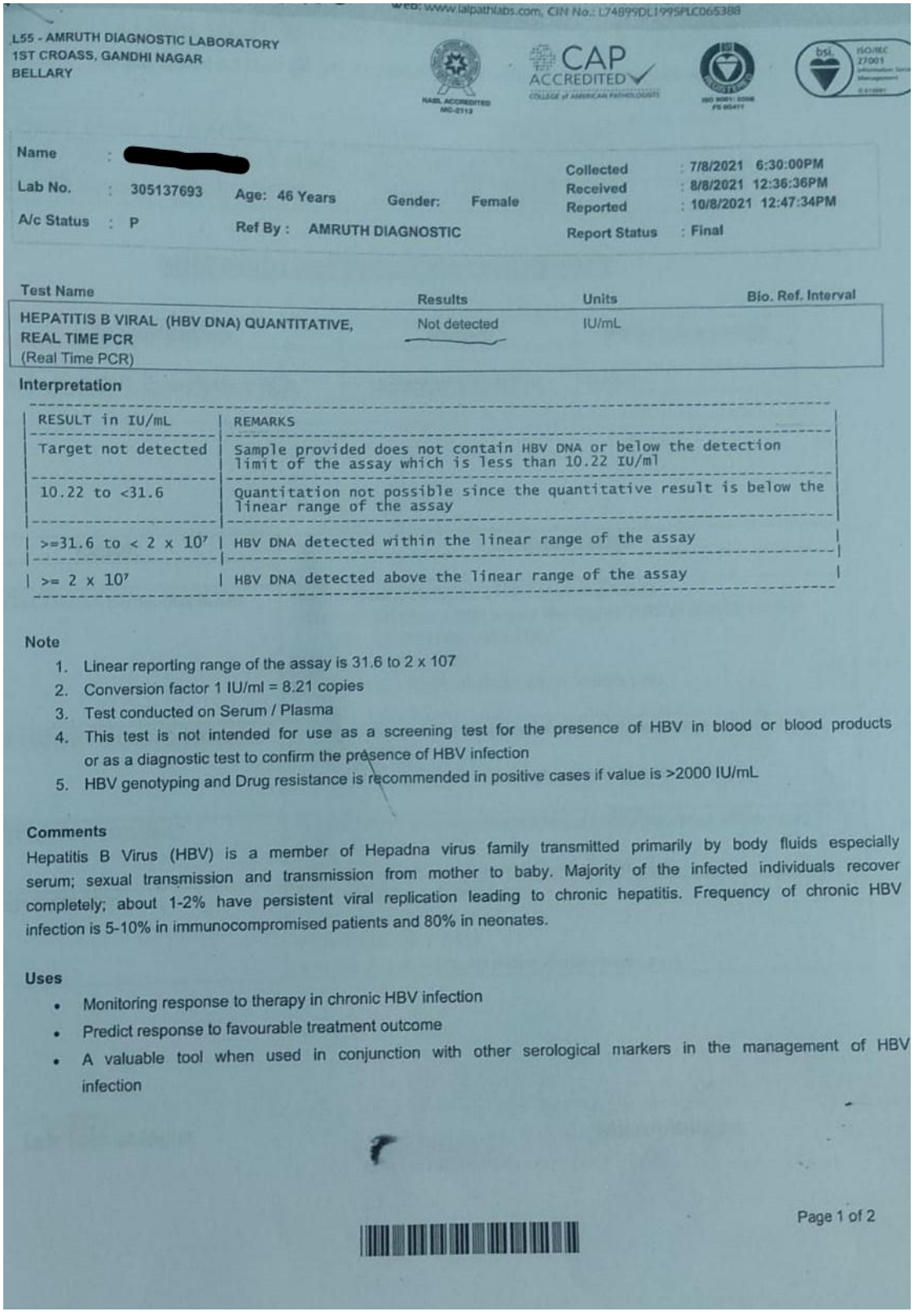
Refer to conditions of reporting overleaf
Results relate only to the sample as received/collected

RV TROPOLIS Pathology Specialist
INNER HEALTH REVEALED

After treatment Hepatitis B viral load



Web: www.lalpathlabs.com, CIN No.: L74899DL1995PLC065388

L55 - AMRUTH DIAGNOSTIC LABORATORY
1ST CROASS, GANDHI NAGAR
BELLARY

NABL ACCREDITED MC-2113 · CAP ACCREDITED · COLLEGE of AMERICAN PATHOLOGISTS · ISO 9001 : 2008 FS 90411 · bsi. ISO/IEC 27001

Name : [redacted]
Lab No. : 305137693 Age: 46 Years Gender: Female
A/c Status : P Ref By : AMRUTH DIAGNOSTIC

Collected : 7/8/2021 6:30:00PM
Received : 8/8/2021 12:36:36PM
Reported : 10/8/2021 12:47:34PM
Report Status : Final

Test Name	Results	Units	Bio. Ref. Interval
HEPATITIS B VIRAL (HBV DNA) QUANTITATIVE, REAL TIME PCR (Real Time PCR)	Not detected	IU/mL	

Interpretation

RESULT in IU/mL	REMARKS
Target not detected	Sample provided does not contain HBV DNA or below the detection limit of the assay which is less than 10.22 IU/ml
10.22 to <31.6	Quantitation not possible since the quantitative result is below the linear range of the assay
>=31.6 to < 2 x 10^7	HBV DNA detected within the linear range of the assay
>= 2 x 10^7	HBV DNA detected above the linear range of the assay

Note

1. Linear reporting range of the assay is 31.6 to 2 x 107
2. Conversion factor 1 IU/ml = 8.21 copies
3. Test conducted on Serum / Plasma
4. This test is not intended for use as a screening test for the presence of HBV in blood or blood products or as a diagnostic test to confirm the presence of HBV infection
5. HBV genotyping and Drug resistance is recommended in positive cases if value is >2000 IU/mL

Comments

Hepatitis B Virus (HBV) is a member of Hepadna virus family transmitted primarily by body fluids especially serum; sexual transmission and transmission from mother to baby. Majority of the infected individuals recover completely; about 1-2% have persistent viral replication leading to chronic hepatitis. Frequency of chronic HBV infection is 5-10% in immunocompromised patients and 80% in neonates.

Uses

- Monitoring response to therapy in chronic HBV infection
- Predict response to favourable treatment outcome
- A valuable tool when used in conjunction with other serological markers in the management of HBV infection

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RESULT AND DISCUSSION

In Ayurveda, our ancient acharya's mentioned Agnimandya and pitta dosha is main samprapti ghataka's for Kamala. and the etiological factors also states that excess intake of Katu, Amla, Lavana ahara, Vitiates jataragni leading to hypofunctioning of jatargni inturn leads to

production of Ama (Amavisha) which vitiates Rakta and produces kamala. Kamala is basically a Raktapitta pradoshaja vyadhi. Deepana pachana with panchakola churna which is basically having Amahara, deepana, pachana property acts at level of jatargni and inturupts the pathophysiology of Kamala. It also acts towards the symptoms of Kamala as mentioned above like aruchi, Agnimandya, Atopa, adhmana, shwasa. Snehapana with brahmi ghrita has definite role as hepatoprotective with its ingredients like vacha, kusta, shankapushpi and purana ghrita. Brahmi is potent antioxidant, superoxide radical scavenging activity and has significant role in reducing SGOT and SGPT. Abundance of saponins in brahmi makes it hepatoprotective. Vacha kustha are rasayanas which prevents further damage of liver by protecting its parenchyma. It also maintains the cognicium of the patient which will be hep hampered in CLD. Kamala is Raktapitta pradoshaja vyadhi, hence virechana (Mrida) is optimum for the treatment. A increase of drava guna of pitta and for elimination of Sanchita pitta dosha, virechana is best line of management. Arogya vardini vati to a potent anti-inflammatory and antiviral properties, which is extremely, effective in treating various liver problems like hepatitis, jaundice and fatty live. The chalogogue nature of herbal formulation stimulates secretion of bile from liver into small intestines and also actively participates in washing out the excessive bille from body before being absorbed, thus reducing of spleens and liver disorders. Patolakalukohinyadi Kashaya restores the normal liver functions by its Raktaprasadak, yakritgaami, deepana, jwaraghna, kamalanashak and pandunashaka action. Rohitakarista provides relief in hepatomegaly and splenomegaly Condition regardless the causes. It reduces toxins developed due to viral, bacterial or parasitic infections. It improves the production of lymphocytes. Punarnava madura is potent hepato protective and hepato stimulative qualities which makes it magical remedy for jaundice and other liver anamolies. It also improves blood circulation of liver. Pippalasava is deepana and it strokes the jataragni by acting at Samprapti level of Kamala and also increases bioavailability of other drugs. Gandaka Rasayang acts at level of Rasa & rakta dhatuagni and reduces itching (kandu) caused due to deposition of bile salts in the skin layer.Other drugs like kiratatikta, godanti bhasma, Vidanga Chuna, Amalaki Churna and Abhaya acts as rasayana, jwaragna, deepana, pachana action.

CONCLUSION

In the above patient there was marked reduction of symptoms of kamala and laboratorial investigations post ayurvedic management showed negative hepatitis B. From the above discussion we have concluded that ayurvedic line of management i.e deepana pachana with

panchkola churna, virechana therapy fallowed by shamana chikitsa is successful in the management of kamala with no unwanted side effects of the therapy during treatment and during fallow up. There is need to carry the study in the larger sample.

BIBLIOGRAPHY

1. https:/www.webmd.com
2. Vaidya Jadavaji Trikamji Acharya., editor. Varanasi: Chaukhambha Orientalia; Agnivesha, Charaka, Dridhbala. Charaka Samhita, Chikitsa Sthana, panduroga Chikitsa Adhyay, Chikitsa Stana, 2011; 16/34-38: 528.
3. Pandey GS, editor. 6th ed. Varanasi: Chaukhambha Bharti Academy; Acharya Bhavmishra, Bhavprakaash Samhita, Pratham Khanda, Haritakyadi Varga, 2006; 1/73: 18.
4. Vaidya Jadavaji Trikamji Acharya., editor. Varanasi: Chaukhambha Orientalia; Agnivesha, Charaka, Dridhbala. Charaka Samhita, Chikitsa Sthana, Apasmara Chikitsa Adhyay, 2011; 10/25: 475.
5. Ambikadas Shashtri. Rasaratnasamucchaya. 9th edition. Chapter no. 20/87. Varanasi: Chaukhamba Sanskrit Publisher, 1994; 400.
6. Hari Sadashiv Shastri Paradakar. Ashtang Hridayam Sutrasthan 15/15. Chaukhambha Surbharati Prakashan, 2002; 235.
7. Shri govinda das ji., commented by Shri kaviraja ambhikadatta shastri, Ayurvedacharya :edited by Bhisagratna shri Bramashankar Mishra Bhaishajyaratnavali. Varanasi: Chaukhambha Sanskrit sanstahana. Pleeharogadhikara, 2016; 235-238: 639-640.
8. Vaidya Jadavji Tirkamji Acharya., editor. 2nd ed. Varanasi: Chaukhamba Surbharati Prakashana; 2005. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Chikitsa Sthana, Pandurogachikitsa Adhyaya, 16/93.
9. Sharangdhara Samhita Madhyamakhanda 10/28-33,
10. Shastri K. Rasa Tarangini (Parishista): Sadananda Sharma. 11th ed. Varanasi: Motilal Banarasi Das., 2004.