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A RETROSPECTIVE ASSESSMENT OF LATENT JAUNDICE

Saurabh Kumar Deo*, Prabhakar Singh Bais

Department of Biochemistry, Maharani Laxmi Bai Medical College, Jhansi, U.P., India

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For Correspondence:

Saurabh Kumar Deo

Ph.D. Research Scholar, Maharishi Markandeshwar University, Mullana, Ambala, Haryana, India.

E-mail:

luvusaurabh2009@gmail.com

ABSTRACT

Jaundice is caused due to higher concentration of serum bilirubin that is an endogenous compound that can be toxic, especially in neonates. The jaundiced patients are frequently ill, uncomfortable, unsightly and unable to work; thus it is worthwhile to review this problem from time to time.Further, latent jaundice is an often-ignored aspect and hence the present study was planned to retrospectively evaluate this aspect. The study was conducted in Biochemistry Department of Maharani Laxmi Bai Medical College (MLBMC), Jhansi, U.P., India. Consecutive 1050 outpatients with simultaneous serum total bilirubin measurements determined over a 12 month time period from July 2013 to June 2014 were included from office records. In each case, 2 ml of venous blood sample had been taken and serum was separated; total bilirubin was estimated by Jendrassik and Grof method. 518 subjects were found to be suffering from latent subclinical jaundice. The majority of subjects were in the age group of 21-30 years. Thus, latent jaundice needs to be addressed properly by further work-up of the patients and close follow up.

INTRODUCTION

Jaundice as a clinical sign has been recorded for over 2300 years[1]. However, the jaundiced patients are frequently ill, uncomfortable, unsightly and unable to work; thus it is worthwhile to review this problem from time to time[1].Jaundice is a physical sign characterized by yellow appearance of the patient due to deposition of bile pigments (bilirubin) in the skin mucous membrane and sclera due to high elastin content in these tissues. It is apparent clinically (clinical jaundice) when serum bilirubin concentration reaches 2-3 mg/dl. If serum bilirubin concentration is below 2 mg/dl it is called as latent jaundice(subclinical jaundice) since at this stage it is not yet detectable, clinically[2]. Approximately 60% of term babies and 85% of preterm babies will develop clinically apparent jaundice[3,4]. Most of these babies have so-called 'physiological jaundice', which typically becomes clinically apparent on day 3, peaks on day 5 to 7 and resolves by day 14. Depending on the cause of jaundice, it may be of three types, i.e. pre-hepatic (hemolytic), hepatic and post-hepatic (obstructive) jaundice (Table 1).Further, latent jaundice is an often-ignored aspect and the present study was planned to retrospectively evaluate this aspect.

Table 1: Biochemical differentiation of three types of jaundice[2,5]

Sample	**Biochemical parameter**	**Types of jaundice**		
		Pre-hepatic	Hepatic	Post-hepatic
Blood	Serum bilirubin	↑	↑↑	↑↑↑
	Types of bilirubin	Unconjugated	Mixed	Conjugated
	Serum transaminase (ALT/SGPT)	N	↑↑↑	↑
	Serum alkaline phosphatase			
	Serum 5'-Nucleotidase	N	↑	↑↑↑
	Prothrombin time (PT)	N	↑	↑↑↑
	Effect of parental vitamin K on PT	N	↑	↑
		-	Remains ↑	↓ **(**Normalizes**)**
Urine	Urobilinogen	↑↓	N/↑	↓/-
	Bilirubin	-	-	↑↑
	Bile salts	-	-	↑
Stool	Stercobilinogen	↑	↓	↓/-
	Causes	Abnormal red cells; antibodies; drugs and toxins; thalassemia; hemoglobinopathies; Gilbert's syndrome; Crigler-Najjar syndrome	Viral hepatitis; toxins hepatitis; intrahepatic cholestasis	Extrahepatic cholestasis; gallstones; tumours of bile duct; carcinoma of pancreas; lymph node enlargement in porta hepatis

MATERIALS AND METHODS

The study was conducted in Biochemistry Department of Maharani Laxmi Bai Medical College (MLBMC), Jhansi, U.P., India. Consecutive 1050 outpatients with simultaneous serum total bilirubin measurements determined over a 12 month time period from July 2013 to June 2014 were included from office records. In each case, 2 ml of venous blood sample had been taken and serum was separated as per the standard guidelines and protocol; total bilirubin was estimated by Jendrassik and Grof method[6].

Reference range:[7]

Total serum bilirubin: 0.2- 0.8 mg/dL.

Clinical jaundice: total serumbilirubin ≥2mg/dl.

Latent jaundice: total serumbilirubin<2mg/dl.

RESULT AND DISCUSSION

The total number of subjects evaluated for total serum bilirubin were 1050 out of which, 518 subjects were found tobe suffering from latent subclinical jaundice and 74 subjects were suffering from clinical jaundice (Fig. 1).The majority of subjects were in the age group of 21-30 years (Table 2).

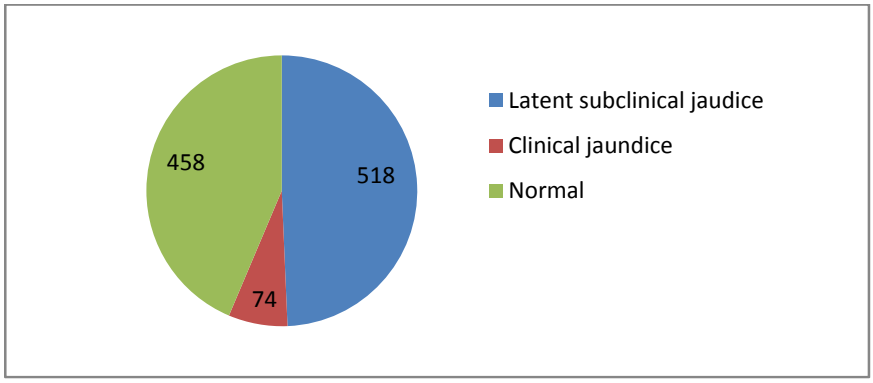

Fig. 1: Distribution of subjects based on latent subclinical and clinical jaundice.

Table 2: Age distribution of study subjects.

Age (Years)	Frequency
0-10	14
11-20	120
21-30	628
31-40	139
41-50	60
51-60	61
61-70	22
71 and above	6

CONCLUSION

Latent jaundice should be addressed properly by further work-up of the patients and close follow up.

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