

An Observational Study of Skin Manifestations in Chronic Liver Disease Patients Attending Tertiary Care Centre.

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Abstract: The skin being the largest organ of the body, often provides a clue to the underlying systemic diseases, and hence cutaneous manifestations of systemic diseases are frequently encountered by dermatologists. The liver is the second largest organ of the body, and liver dysfunction often results in changes in the body's largest organ, the skin. The present study was aimed to study the cutaneous manifestations of chronic Liver Disease.

Materials and method: this study was conducted in the tertiary care centre of Jharkhand. 100 patients were included in the study after fulfilling the exclusion and inclusion criteria.

Results: 100 patients who was diagnosed with hepatobiliary disease were included, out of which 69 patients were males and 31 patients were females. The most common cause of chronic liver disease was alcoholic hepatitis seen in 85% followed by drug induced hepatitis 5%, hepatitis B,C infections 4% and unknown etiology 6%. The commonest skin manifestation was pigmentation in form of icterus seen in 82% patients, followed by xerosis 63%, excoriations 45%, clubbing 39%, palmer erythema & spider nevi 32% and hair loss 21%.

Conclusion: the common cutaneous manifestations in chronic liver disease patients were pigmentation, xerosis, nail abnormalities, hair changes and palmer erythema.

Key words: Chronic liver disease (CLD), Cutaneous manifestations, Hepatitis

Date of Submission: 20-03-2019

Date of acceptance: 06-04-2019

I. Introduction

An association between the skin and the liver disease has been recognized since ancient times. The term spider originated in the New York underworld, where barmaids noted "spiders" as evidence of advanced liver disease in their customers.¹ Hepatobiliary disease can cause cutaneous manifestations in several ways; liver disease may cause skin changes, the skin and liver may be involved by the same pathologic process, skin disease may cause liver abnormalities and the liver may be damaged by drugs used to treat skin diseases.² The liver is the second largest organ of the body, and liver dysfunction often results in changes in the body's largest organ, the skin.

Chronic liver disease, can give rise to numerous extrahepatic disorders among which dermatological diseases occupy a central place and at times point to aetiology of disease.³ Jaundice, pigmentation, spider telangiectasias,⁴ striae distensae, leukonychia, palmar erythema⁵, xerosis and loss of pubic and axillary hair are recognized sequelae of CLD⁶. Besides, these certain dermatoses are frequently associated with hepatobiliary disorders including lichen planus^{7,8}, pyoderma gangrenosum, urticaria, porphyria cutanea tarda, vitiligo and hepatocutaneous syndrome. Other skin disorders which may be linked to CLD are erythema multiforme and nodosum, Behcet's disease and malakoplakia⁹.

II. Materials and Methods

100 Consecutive consenting Patients suffering from CLD of any etiology and either sex presenting to inpatient and outpatient department of general medicine in Rajendra Institute of Medical Sciences, were enrolled in the study. In majority of the cases the diagnosis of CLD had been established and they presented for the management of its complications. All the patients underwent complete investigations including biochemical and hematological tests, ultrasonography and antibody profile where required. In most of the cases the cause of the disease was known and patients had admissions in the hospital in the past. During history taking, emphasis was on presenting complaints, age of onset, duration of disease and drugs taken for CLD. Particular inquiry was made regarding intake of alcohol. Cutaneous examination included inspection of the oral cavity, examination of hair, nails, mucosae, genitalia and skin. Patients were also evaluated for skin diseases associated with CLD.

III. Results

100 consecutive consenting patients above 15years of age, who were diagnosed with Chronic Liver Disease from october 2017 to september 2018 were included in the study. Among this 69 were males and 31 were females.(figure1) In our study the most common cause of chronic liver disease was alcoholic hepatitis comprising 85% , idiopathic cause were 6% , hepatitis B ,C infection was 4% and drug induced were 5% as shown in table 1.

Among dermatological conditions the commonest cutaneous changes seen was icterus in 82%, followed by xerosis 63%,pallor 46%, excoriations 45%, hyperpigmented palmer creases & spider nevi 32% as shown in table 2 & figure 2. In our study hair loss was seen in 24% of patients which was in form of tellogen effluvium, this was followed by brittle hair 15%, premature canitis 3% and alopecia areata 1%.(table 2 figure 3)

In our study the most common nail change was terry nails seen in 38% followed by brittle nails 37%, longitudinal ridging 24% , watch glass deformity 12% & leuconychia in 10%.(Table 2, figure 4)

Among mucosal changes seen the commonest was hyperpigmentation which was seen in 12% patients followed by atrophic glossitis 11% , oral candidiasis 10% and coated tongue 8%.(table 2, figure 5)

TABLE 1

S.no.	CAUSE	NUMBER	%
01	Alcoholic hepatitis	85	85%
02	Idiopathic	06	06%
03	Hepatitis B & C infection	4	4%
04	Drug induced	5	5%

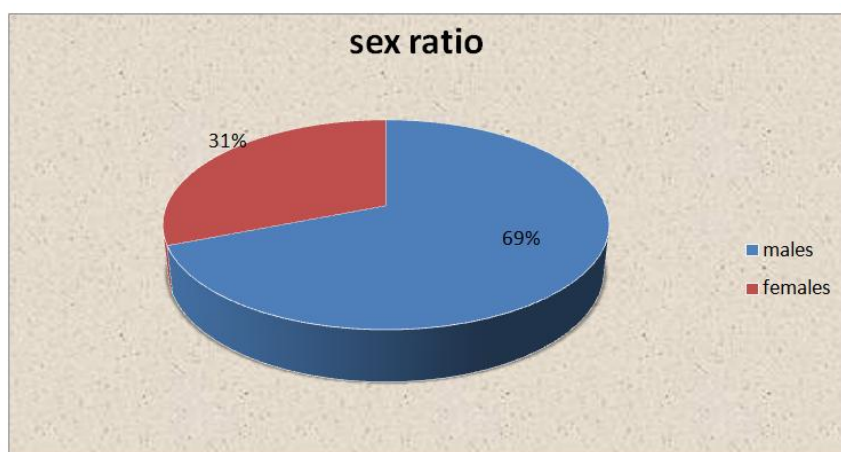


Figure 1: showing male female sex ratio

TABLE 2

CUTANEOUS CHANGES		PERCENTAGE
icterus		82%
pallor		46%
Xerosis/ichthyosis		63%
excoriations		45%
Nail changes	terry nails	38%
	leuconychia	10%
	brittle nails	37%
	longitudinal ridging	24%
	watch glass deformity	12%
Hair Changes	tellogen effluvium	21%
	brittle hair	15%
	premature canitis	3%
	alopecia areata	1%
Spider Nevi & Palmer Erythema		32%
pedal oedema		31%
clubbing		39%
petechiae & purpura		25%
mucosal changes	atrophic glossitis	11
	hyperpigmentation	12

	coated tongue	8
	oral candidiasis	10

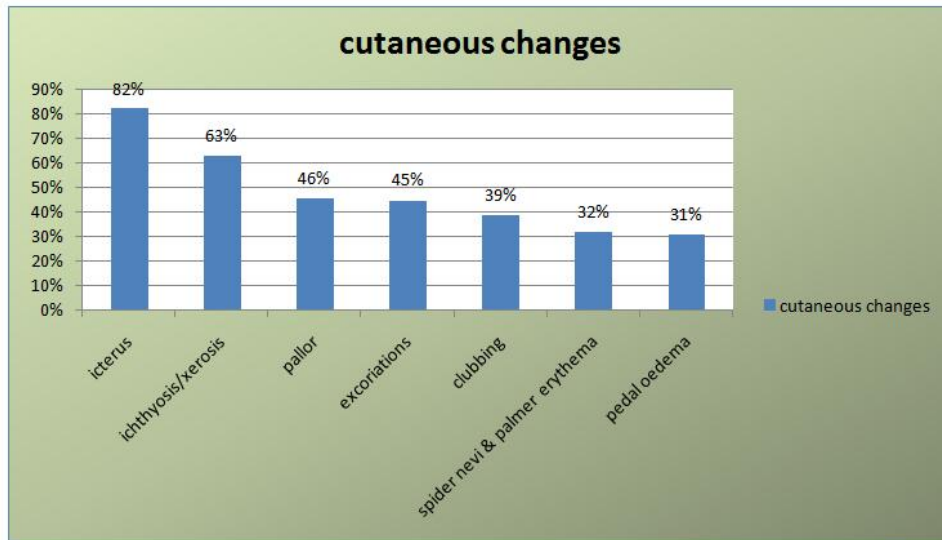


Figure 2: showing percentage of cutaneous changes

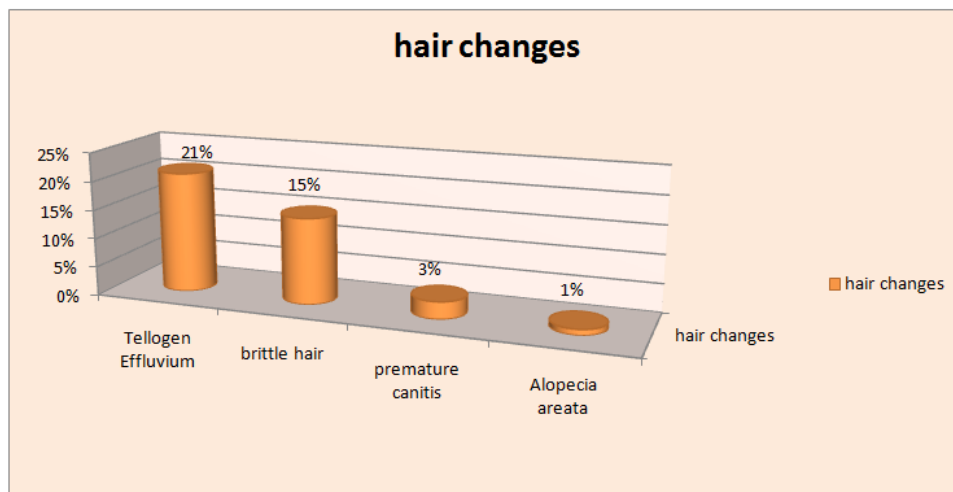


Figure 3: showing percentage of hair changes

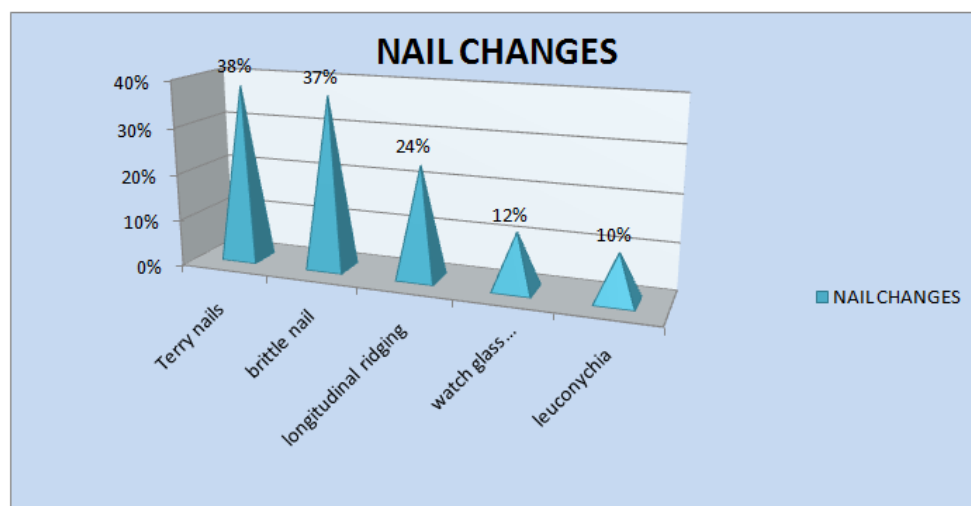


Figure 4: showing percentage of nail changes

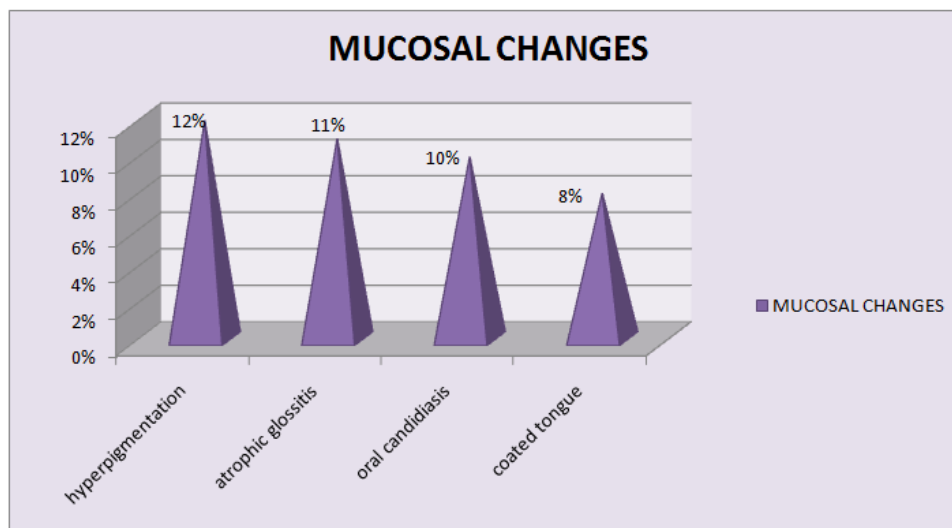


Figure 5 : showing mucosal changes.

IV. Discussion

Hepatobiliary diseases are frequently associated with abnormalities of the skin, nails and hair¹⁰.

Chronic liver disease is a multisystemic disorder affecting majority of patients presenting to medical units for the management of variety of its complications arising as a result of its long standing course.

In our study 100 consecutive patients more than 15 years of age, diagnosed with chronic liver disease were included. Among 100 patients 69 were males and 31 were females, male: female ratio was 2.2:1 . Study done by Gavli et al also showed a male preponderance with 66% males and 34% females.¹¹

In Chaudhary et al study males constituted 84% and females 16%¹². In another study by Niaz et showed that out of 164 cases, 53.7% were males and 46.3% females¹³.

In our study, the commonest cutaneous changes seen was icterus in 82%, which was similar to Khan et al¹⁴ but higher than Nadeem et al and Godara et al study, reporting in 64% & 79.5% of cases respectively^{15,16}.

Among other common cutaneous findings following icterus were xerosis/ichthyosis, pallor, excoriations, hyperpigmented palmer creases , and this were similar to the other studies^{16,17}.

In our study the most common nail change was terry nails seen in 38% followed by brittle nails 37%, longitudinal ridging 24% , watch glass deformity 12% & leuconychia in 10%. Other studies also found Terry nails the most common nail changes varying from 17% to 36.9%.^{12,15,16}

In our study hair loss was seen in 24% of patients which was in form of telogen effluvium, this was followed by brittle hair, premature canitis and alopecia areata which was similar to gondara et al study¹⁶. Hair loss was observed in other studies varying from 12% - 64%^{12,17}

Among mucosal changes seen the commonest was hyperpigmentation which was seen in 12% patients followed by atrophic glossitis , oral candidiasis and coated tongue. Godara et al observed hyperpigmentation in around 14% of patients however, in his study atrophic glossitis was the commonest changes observed¹⁶.

In our study Pruritus was complained by 56% of patients and excoriations was observed in 45% of patients which was same as Gavli et al who noted pruritus in 45% of the patients¹¹.

In another study, Pruritus was seen in 27% of the patients¹². Sayal et al showed pruritus in 10.8% patients¹⁸.

In our study Petechiae, purpura & ecchymosis were seen in 25% of patients which was comparable to other studies by Gavli et al, Chaudhary et al who observed 19% and 22% respectively^{11,12}.

Palmer erythema and spider nevi were seen in 32% of patients in our study which was comparable to studies by Khan et al who observed had 36% of the patients with palmar erythema and spider angioma¹⁴. Palmar erythema was seen in only 3% of the patients study by Chaudhary et al¹², Study done by Sayal et al¹⁷ in Pune had 4.3% patients with palmar erythema and no cases of palmar erythema were seen in the study conducted by Gavli et al¹¹.

The skin being the largest organ of the body, often provides a clue to the underlying systemic diseases, and hence cutaneous manifestations of systemic diseases are frequently encountered by dermatologists^{18,19}.

V. Conclusion

This study concludes that there is relationship of dermatological manifestations and chronic liver disease and one should search for underlying liver disease for above mentioned dermatological conditions and this will help in early diagnosis and better management of the diseases.

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Dr. Alok Tirkey. "An Observational Study of Skin Manifestations in Chronic Liver Disease Patients Attending Tertiary Care Centre." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 04, 2019, pp 14-18.