STUDY OF CUTANEOUS MANIFESTATIONS IN CHRONIC LIVER DISORDERS

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ABSTRACT

Forty nine cases of chronic liver disorders were studied for cutaneous manifestations. More than half of these (57.1%) cases revealed cutaneous changes. Common cutaneous manifestations were prominent dilated veins on abdomen (28.6%), icterus (20.1%), clubbing of nails (16.3%), ichthyosis (12.2%), hyperpigmentation (12.2%), pruritus (8.2%), gynaecomastia (8.2%) and spider naevi (6.1). Less common cutaneous manifestations included palmar erythema, telangiectasia, leuconychia, loss of body hair and acneiform eruptions in 4.1 per cent cases each and striae distense, purpura and pellagra in 2.0 per cent cases each.

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KEYWORDS: Chronic liver disorders; Cutaneous manifestations.

Introduction

The liver is the second largest organ of the body and plays a central role in metabolic homeostasis [1]. Liver diseases are frequently associated with abnormalities of skin and its appendages. As a general rule the cutaneous findings are nonspecific as they may be present in other diseases and even absent in patients with advanced liver dysfunction [2]. Also there are not many studies describing frequency of various cutaneous manifestations in patients with chronic liver disorders. In this study an attempt has been made to determine incidence of cutaneous changes in chronic liver disorders.

Material and Methods

The material for the study consisted of 49 cases of chronic liver disorders admitted to medical wards and gastroenterology centre of Command Hospital, Southern Command, Pune during the period from March 1994 to February 1995. In addition to recording of detailed history, general systemic and dermatological examination was carried out for each patient. Investigations in all cases included hemogram, urinalysis, liver function tests and HbsAg. Other investigations like ultrasound,

endoscopy, liver biopsy, radiograph chest, VDRL tests and ELISA for HIV antibodies were done as indicated.

Results

The observations are recorded in Tables 1-2 and Figs 1-5. All the 49 patients were males. Majority of 28 (57.1%) cases were in third and fourth decades of life. The youngest patient was 18 years and the oldest 65 years of age. The commonest chronic liver disorder encountered was cirrhosis of liver in 31 (63.3%), followed by chronic active hepatitis in 11 (22.4%), chronic persistent hepatitis in 4 (8.2%) and hepatocellular carcinoma in 3 (6.1%) cases.

Common cutaneous manifestations observed were icterus 10 patients (20.1%), pruritus 4 (8.2%), dilated veins on abdomen 14 (28.6%), spider naevi 3 (6.1%), clubbing of nails 8 (16.3%), hyperpigmentation 6 (12.2%) and ichthyosis in 6 (12.2%) cases. Less common cutaneous manifestations were telangiectasis, palmar erythema, leuconychia, loss of body hair and acneiform eruptions in 2 (4.1%) cases each. Pellagra, striae distense and purpura were seen in 1 (2.0%) case each. Cutaneous manifestations were maximum in cases

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TABLE 1
Age distribution of cases of chronic liver disorders

Age in years	Number	Percentage
11 - 20	1	2.1
21 - 30	12	24.5
31 - 40	16	32.6
41 - 50	9	18.4
51 - 60	8	16.3
61 - 70	3	6.1
Total	49	100

TABLE 2
Cutaneous manifestations in chronic liver disorders

Type of cutaneous manifestation	No (%) of cases			Total (percentage)
	Cirrhosis of liver (31)	Chronic active hepatitis (11)	Others (7)	
Icterus	7	2	1	10 (20.4)
Pruritus	3	1	—	4 (8.2)
Hyperpigmentation	5	—	1	6 (12.2)
Prominent veins on abdomen	14	—	—	14 (28.6)
Spider naevi	3	—	—	3 (6.1)
Palmar erythema	2	—	—	2 (4.1)
Telangiectasia	2	—	—	2 (4.1)
Purpura	1	—	—	1 (2.0)
Ichthyosis	3	1	2	6 (12.2)
Gynaeomastia	3	—	1	4 (8.2)
Loss of body hair	1	—	1	2 (4.1)
Clubbing of nails	6	1	1	8 (16.3)
Leuconychia	2	—	—	2 (4.1)
Acneiform lesions	1	1	—	2 (4.1)
Striae distense	1	—	—	1 (2.0)
Pellagra	1	—	—	1 (2.0)

* Some patients had more than one type of cutaneous manifestations

of cirrhosis of liver.

Discussion

The association of hepatic and cutaneous disease has been recognized for centuries [1]. The list of cutaneous changes in liver diseases is extensive. In some instances the simultaneous involvement of skin and liver is directly and clearly related whereas in other cases the relationship is less clear

Fig. 1 : Spider naevi in alcoholic liver disease

Fig. 2 : Distension of abdomen with prominent veins and gynaeomastia in alcoholic liver disorder

[3]. In the present study cutaneous changes were observed in 57.1 per cent of cases which is comparable with other studies [1,4].

Icterus is a common manifestation in liver diseases. It is due to increased serum bilirubin and subsequent deposition in skin and other tissue. In the study by Ratnoff and Patek [5] icterus was found in 65 per cent of the patients at one time or the other during the course of the disease. In the

Fig. 3: Secondary ichthyosis in alcoholic liver disorder

Fig. 4: Pellagra in alcoholic liver disorder

present study it was found in 20.1 per cent of cases.

Pruritus is another feature in liver disorders and is believed to be due to presence of bile salts in the skin [2]. It is less common in chronic liver disorders as compared with acute liver disorders. Among chronic liver disorders it is more common in biliary cirrhosis, where it may be present in almost 50 per cent of cases. In this study pruritus was found in 8.2 per cent of cases only, since there was no case of biliary cirrhosis.

Multiple vascular abnormalities have been reported in chronic liver disorders [3]. Portal hypertension in cirrhosis of liver leads to collateral blood flow producing dilated veins on abdominal wall. This was seen in 28.6 per cent cases in the present study as compared to 23.6 per cent cases by Ratnoff and Patek [5]. Other vascular abnormalities observed were spider naevi in 6.1 per

Fig. 5: White nails in alcoholic liver disease

cent, telangiectasis in 4.1 per cent and palmar erythema in 4.1 per cent of cases. The incidence of these changes was found to be 17.5, 15 and 10 per cent in the study by Bedi and Kapur [4] and 15, 17 and 4.1 per cent respectively in the study by Ratnoff and Patek [5].

Hyperpigmentation was seen in 12.2 per cent of cases. The pathogenesis of hyperpigmentation is not clear. Although elevation of MSH and ACTH can cause hyperpigmentation, elevation of these are not a feature of liver disorders [1]. According to Berman [1] some patients with hepatic disease demonstrate hyperpigmentation which is mostly associated with haemochromatosis and cirrhosis.

In chronic liver disorder there is a relative hyperestrogenic state which may be responsible for the cutaneous manifestations like loss of body hair and gynaecomastia [1]. Incidence of these in our study was 4.1 and 8.2 per cent cases respectively. In the study by Bedi and Kapur [4] loss of hair was seen in 17.5 and gynaecomastia in 5 per cent cases whereas Ratnoff and Patek [5] observed loss of body hair in 0.3 per cent while there was no case of gynaecomastia.

Clubbing of nails and leukonychia were common findings in this study and were seen in 16.3 and 4.1 per cent cases respectively. Other studies have revealed clubbing of nails in 10, 12.5 and 4.1 per cent cases [1,4,5] and leukonychia in 37.5 and 11.4 per cent cases [4,6] of chronic liver disorders.

In our study ichthyosis was a relatively common finding and was seen in 12.2 per cent of cases which have not been described by other workers.

Acquired ichthyosis may be due to nutritional deficiency of essential fatty acids.

In conclusion, there are numerous cutaneous manifestations in chronic liver disorders. Although most of these are nonspecific, recognition of the association may be useful for diagnosis.

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