

ENDOSCOPIC LESIONS IN CHRONIC RENAL FAILURE

Pages with reference to book, From 95 To 96

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ABSTRACT

To determine the frequency and type of upper gastrointestinal lesions in patients with chronic renal failure (ORF), upper GI endoscopy was done in 101 cases. Of the various mucosal lesions, inflammatory changes were seen maximally (40), followed by erosions (16) and ulcers (7). Other changes included atrophic gastric folds (17), pale mucosa (11) and maniliasis (6) which was only seen in patients with end stage CRF. Lesions were more frequent in those who were in advanced stage of ORF (81%) and those undergoing dialysis (79%), reflecting a positive correlation of upper GI lesions with the severity of CRF (JPMA 43: 95,1993).

INTRODUCTION

Structural Changes in the upper gastrointestinal mucosa and a higher prevalence of peptic ulceration has been reported in patients with chronic renal failure¹⁻³. Various workers have found a higher frequency of inflammatory lesions²⁻⁶ in CRF. This report describes the type and distribution of upper gastrointestinal mucosal lesions, their relation to different treatment modalities and severity of renal failure.

PATIENTS AND METHODS

From April, 1989 to September, 1990, one hundred and one patients with chronic renal failure were referred for upper gastrointestinal endoscopy from the Department of Nephrology, Jinnah Postgraduate Medical Centre, Karachi, irrespective of their disease stage and gastrointestinal symptoms. History and clinical symptoms were recorded on a standardised proforma. Clinical and biochemical were used for diagnosis, included anaemia, raised BUN, serum creatinine, uric acid and phosphate levels and decreased serum creatinine clearance, which was also used for staging. Creatinine clearance of more than 10 ml/min was staged as early to late stage and less than 10 ml/min as end stage failure. Cases with liver disease, portal hypertension and respiratory diseases and those who were taking aspirin, NSAIDs and corticosteroids were excluded from the study. Endoscopy was done after an overnight fast with Olympus Qx10 scope, 2% xylocaine was used as topical anaesthesia and no sedation was used. Ulcer was defined as a break of more than 5 mm in the continuity of oesophageal, gastric or duodenal mucosa. Erosion was labeled when a superficial mucosal defect of two dimension was found. Inflammatory changes were regarded as separate entity. Endoscopic criteria for diagnosis were hyperaemia, mucosal oedema, friability contact bleeding and petechial haemorrhages; whereas hiatus hernia (HH), lax lower oesophageal sphincter (LAXLES), gastroesophageal reflux (GOR) and columnar lined oesophagus (CLE) were analysed as a separate entity under the heading of others. In suspected cases aspirate was examined under microscope to confirm fungal infection.

RESULTS

Total of 101 patients with chronic renal failure were endoscoped, of these 61 were males. Ages of the patients ranged from 15 to 80 years with maximum numbers falling in 4th decade. Endoscopically 32 cases had no lesion irrespective of the CR? stage or mode of treatment Inflammatory lesions were found in 40 and erosions in 16 cases. Lesions were more frequent in stomach, inflammation in 27 and erosions in 10 cases. Ulcers were found in 7 cases, 6 in the duodenum and 1 in the oesophagus. Other changes in the mucosa were atrophic gastroduodenal folds in 17 and pale mucosa in 11 cases. Moniliasis was found in 6 patients while 21 cases had “other” abnormalities. Depending upon the modes of treatment patients were divided into two groups. Of the total 72 patients were on conservative treatment and 29 on dialysis (28 on hemodialysis and one on peritoneal dialysis). Overall lesions were commoner in dialysis group (79%) as compared to those managed conservatively (44%), however, erosions and monilial infection was more common in the latter group (Table I).

TABLE I. Frequency of lesions vs modalities of treatment.

	Conservative (72)		Dialysis (29)	
	No.	%	No.	%
Normal	26	36	6	21
Inf. lesions	27	37.5	13	45
Erosions	12	17	4	14
Ulcers	4	5.5	3	10
Atrophic folds	6	8	11	38
Pale mucosa	4	5.5	7	24
Monilia	5	7	1	3

Creatinine clearance was done in 86 cases which were further analysed according to the stage of renal failure. Fortynine patients had early-late stage while 37 had end-stage disease.. Cumulative lesions were more frequent in the latter group (81%) as compared to the former (49%), however, inflammatory lesions were significantly more common in patients with end-stage renal failure (P <0.05). Moniiasis was only found in end-stage renal failure (Table II).

TABLE II. Frequency of lesions vs stage of CRF in 86 cases

	End stage R.F. (n = 37)		Early and date stage R.F. (n = 49)	
	No.	%	No.	%
Normal	7	19	25	51
Ulcers	3	8	4	8
Erosions	5	13.5	7	14
Inf. lesions	19	51*	14	29
Atrophic folds	9	24	5	10
Pale mucosa	5	13.5	6	12
Monilia	5	13.5	0	0

*P < 0.05

DISCUSSION

Present study shows an overall prevalence of endoscopic abnormalities of 68.3% which is similar to 45-82% reported by others^{3,7,8}. Of the various types of lesions seen, inflammatory changes were most common (40%). Gastritis (27%) was more frequent than duodenitis (8%) in our patients than those reported from India being 13.7% and 11.5% respectively⁹. Peptic ulceration was seen in 7% which is similar to 3.7-8.8% reported from India⁹. Although several studies have demonstrated the association of upper gastrointestinal lesions with CRF but the pathogenesis of the lesions is still unclear. Although acid secretion has been widely incriminated and investigated but the results are contradictory; some showed an increased gastric acid secretion^{2,9,10} whereas others observed hyposecretion or normal acid output¹¹ this could be due to the neutralising effect of urea hydrolysed in G.I. mucosa¹². Recently impairment of the defensive mechanism has been found in CRF, i.e., increased H⁺ ion permeability of the gastric mucosa and its sensitivity to acid-induced injury¹³; this could be due to a decrease in gastric mucous gel layer thickness and impairment of epithelial tight junctions rendering the mucosa more vulnerable to normal acid secretion. Patients on conservative treatment had higher frequency of normal endoscopy as compared to those on dialysis (36% vs 21%). The results were similar when early-late stage was compared with end-stage group (51% vs 37%). This finding suggests that the more is the renal impairment, the more is the chance of getting upper gastro-intestinal lesions. Monilial infection in the patients with end-stage renal failure indicates their immuno compromised status. It can be concluded that the upper Gd. lesions are the frequent complication of CRF which should be taken into account in the management of these cases.

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