

The Periodontal Condition of Chronic Hemodialysis Patients in the Nephrology and Hemodialysis Department of the Mali-Gavardo Hospital in Bamako

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Abstract

Objective: To assess the periodontal condition of chronic hemodialysis patients in the Nephrology and Hemodialysis department of the Mali-Gavardo Hospital in Bamako.

Materials and method: We carried out a prospective, transversal and descriptive study based on the observation of the periodontal state in patients followed in the department over a period of 6 months (June to December 2018). The target population was chronic hemodialysis patients followed during the study period. The data was collected from medical records and a questionnaire and entered, then analyzed with SPSS version 19.0 software. The free and informed verbal consent of each participant was obtained with strict anonymity.

Results: The male sex was the most represented in 66.6% of the cases with a sex ratio of 2; The most represented age group was 61 to 80 with an average age of 50 and extremes ranging from 20 to 80. The initial nephropathy was vascular in 30% of the cases. Hyperparathyroidism was noted in 60% of patients; 6.7% had hepatitis B and 3.3% had hepatitis C and HIV.

Smoking was observed in 36.7% of patients and 50% had a good plaque index and 90% gingival inflammation. Periodontal conditions observed were periodontitis (43.3%), gingivitis (33.3%), recession (20%) and gingivorrhagia (3.4%). Paleness and dry mouth were noted in 63.3% and 36.7% of cases, respectively.

Conclusion: This study shows the high frequency of periodontal infection in chronic hemodialysis patients, hence the importance of early and multidisciplinary management.

Keywords: periodontal diseases, chronic hemodialysis, periodontitis gingivitis, Mali

INTRODUCTION

Oral conditions are common in the general population and are often associated with a less favorable prognosis. Untreated, they have harmful effects on general health. [1].

Chronic hemodialysis patients (HDCs) often have a faulty periodontal condition which can affect chronic uremia and its treatment. Oral pathologies are correlated with malnutrition and inflammation, they promote atherosclerosis. Effective oral care is essential

to avoid infectious, nutritional, cardiovascular or iatrogenic complications [2]. Poor oral health is, however, a vector of discomfort, pain, difficulty in eating, deterioration of aesthetics, deterioration of self-esteem and the gaze of others. It is a risk factor for general pathologies [3]. The study of the prevalence of periodontal diseases in chronic hemodialysis patients will make it possible to determine the mapping of these pathologies but also to develop a prevention and screening program within the framework of multidisciplinary collaboration

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MATERIALS AND METHOD

This was a prospective and descriptive study from June to December 2018 in the nephrology and hemodialysis department of the Mali-Gavardo Hospital in Bamako. The target population was chronic hemodialysis patients followed during the study period. Included in the study were all chronic hemodialysis patients who gave their consent to participate in the survey, agreed to answer the questionnaire and to be examined. Patients whose general condition did not allow an appropriate periodontal examination were not included in the study. Patients who were unable to express themselves or who were at risk of worsening their symptoms were excluded. We used the plaque

index to assess the quality of oral hygiene, the LOË gingival index and SILNES gingival inflammation. The data was collected from medical records and a questionnaire and entered, then analyzed with SPSS version 19.0 software. The free and informed verbal consent of each participant was obtained with strict respect for anonymity

RESULTS

During the study period, we collected 30 patients. : The male sex was the most represented in 66.6% of the cases with a sex ratio of 2; the most represented age group was 61 to 80 with an average age of 50 and extremes ranging from 20 to 80. Among the patients, 66.7% had health coverage (Table I).

Table1. Sociodemographic characteristics of patients

Variables	Effective	Frequency (%)
Sex		
Male	20	66,7
Female	10	33,3
Age Group (years)		
20 to 40 years old	8	26,7
41 to 60 years old	10	33,3
61 to 80 years old	12	40,7
Health cover (insurance)		
Yes	20	66,7
No	10	33,3

The initial nephropathy was vascular in 30% of the cases. Hyperparathyroidism was noted in 60% of patients. Of the patients, 6.7% had hepatitis B and 3.3% had hepatitis C and HIV. Among our patients, fifers (50%) had normal calcemia,

46.7% had hypocalcemia and one case was not performed. Seventeen patients had normal total vitamin D (25 - OH-VIT D), it was low in 46.7%, increased in 10% of cases and not achieved in 13.3% of patients (Table II).

Table2. General clinical characteristics of patients.

Variables	Effective	frequency (%)
Initial nephropathy:		
Vascular	9	30
Glomerular	7	3,3
Diabetic	7	3,3
Unspecified	6	20
Chronic interstitial nephritis	1	3,3
Hyperparathyroidism	18	60
Hepatitis B	2	6,7
Hepatitis C	1	3,3
HIV	1	3,3
Total vitamin D		
Normal	17	56,7
Hypovitaminosis D	6	20,0
Hypervitaminosis D	3	10,0
Not made	4	13,3

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Calcemia		
Normal	15	50,0
Hypocalcemia	14	46,7
Not made	1	3,3
Body mass index		
Far below normal weight: <16 kg / m ²	1	3,3
Below normal weight: [16.0 - 16.9] kg / m ²	2	6,7
Insufficient weight: [17.0 - 18.4] kg / m ²	7	23,3
Normal weight: [18.5 - 24.9] kg / m ²	17	56,7
Over weight: [25.0 - 29.9] kg / m ²	2	6,7
Class I obesity: [30.0 - 34.9] kg / m ²	1	3,3

Smoking was observed in 36.7% of patients and 50% had a good plaque index and 90% gingival inflammation. Periodontal conditions observed were periodontitis (43.3%), gingivitis (33.3%), recession (20%) and gingivorrhagia (3.4%). Paleness and dry mouth were noted in 63.3% and 36.7% of cases, respectively (Table III)

Table 3. Periodontal status of patients

Variables	Effective	Frequency (%)
Smoking	11	36,7
Plaque index		
Excellent (0)	3	10
Good (0.1 - 0.9)	15	50
Medium (1 - 1.9)	11	36,7
Low (2 -3)	1	3,3
Gingival index		
Inflammation absent (0)	3	10
Mild inflammation (0.1-0.9)	11	36,7
Medium inflammation (1-1,9)	14	46.6
Severe inflammation (2 - 3)	2	6,7
Periodontal disorders		
Gingivitis	10	33,3
Periodontitis	13	43,3
Gingivorrhagia	1	3,3
Gingival recession	6	20,0
Oral mucosa		
Pallor	19	63,3
Dry mouth	11	36,7

DISCUSSION

In our study we collected 30 chronic hemodialysis patients followed up in the Nephrology and Hemodialysis department of the Mali-Gavardo Hospital in Bamako.

The male sex was the most represented in 66.6% of the cases with a sex ratio of 2. The most represented age group was that of 61 to 80 years with an average of 50 years and extremes of 20 and 80 years. In Morocco T. BOUATTAR et al. in 2010 in their study reported an average age was 41.7 years with extremes of 20 and 73 years and a female predominance with a sex ratio 0.6 [4]. The majority of our patients had health coverage, 66.6%. It was 4.8% in the study by T. BOUATTAR et al in 2010 [4].

M. NADEEM et al reported in their study an average age of subjects of 50.3 ± 9.06 years with a median dialysis time of 24 months [5]. .

The initial nephropathy was vascular in 30% of the cases. Hyperparathyroidism was noted in 60% of patients. Of the patients, 6.7% had hepatitis B and 3.3% had hepatitis C and HIV. AgHbs was positive in 6.7% of cases; HIV and HCV were positive in 3.3% of the cases. Calcemia was normal in 50% of cases and hypocalcemia was frequent in the study of MEYRIER and MIGNON [6, 7]. Total vitamin D was normal in 56, 7% of cases. Fifty-six point seven percent had normal body mass index.

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FRANEK E et al in 2006 [8] found poor oral hygiene in 50% of patients. JACEK BORAWSKI et al reported in their study a plaque index (PI) of 2.05, 1.59, 1, 2) and a gingival index (GI) of 1.37, 0.95, 1, 2 [9]

M. Nadem et al reported in their study a prevalence of 57.5% (n = 46) of periodontitis [5]

Patients with pre dialysis and HD had significantly more sites with loss of clinical attachment ≥ 6 mm than healthy individuals [10].

Periodontal disease is a chronic inflammation induced by various pathogens and its frequency and severity in patients undergoing dialysis is higher than that of healthy individuals. Therefore, several researchers have paid particular attention to the impact of periodontal disease on markers related to inflammation, nutrients and bone metabolism; the immune system; and complications in patients on dialysis [11].

Paleness and dry mouth were noted in 63.3% and 36.7% of cases, respectively

Saliva plays an important role in moistening the mucous membranes, digestion, maintaining tooth integrity and taste. It also has an antiseptic role. Dry mouth is a common complication in HDC [12].

CONCLUSION

The study showed a high prevalence of periodontal diseases in chronic hemodialysis patients. The strengthening of oral hygiene in these patients and the integration of oral consultation in the examinations of the latter are necessary. Multidisciplinary collaboration could be necessary and essential for better management of these hemodialysis patients and will greatly contribute to the improvement of their health and quality of life.

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