130 - COMORBIDITIES OF THE CHRONIC RENAL PATIENTS AND THE COMPLICATIONS ASSOCIATED WITH HEMODYALISIS TREATMENT

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INTRODUCTION

The Chronic Renal Insufficiency (CRI) is represented by a complex diagnosis of progressive and irreversible loss of the number of functional nephrons responsible for the glomerular filtration. Even though the chronic renal disease is manageable, it is incurable, progressive and has elevated morbidity and lethality, being associated with many personal, familial and social costs (THOMÉ et al., 2006). The incidence and prevalence of CRI in terminal stages has increased progressively each year in Brazil and in the world. Despite all the efforts of the collection of data about patients with terminal chronic renal insufficiency in Brazil, there still is not a national register system which could provide, annually, trustworthy data, from the epidemiological point of view. Furthermore, the knowledge of data about individuals with terminal CRI is even more precarious (SESSO et al., 2010)

As the renal function is compromised, a loss of essential chemical substances occurs in the urine and accumulation of chemical debris and toxins in the blood, resulting in uremia or azotemia. The urea formed affects all the system, and the greater the accumulation of debris, more serious the symptoms will be, and may cause neurological, tegumentary, cardiovascular, pulmonary, gastrointestinal, hematological, reproductive and musculoskeletal alterations (SMELTZER; BARE, 2006).

The CRI may be caused by infections (pyelonephritis and tuberculosis), congenital anomalies (polycystic), systemic arterial hypertension (SAH), obstructive processes (kidney stones and prostrate hypertrophy), metabolic disorders (diabetes mellitus), autoimmune diseases (glomerulonephritis, systemic lupus erythematosus and rheumatoid arthritis) and acute renal insufficiency (GUYTON; HALL, 2002).

Among the treatments used to substitute the renal function, the conservative treatment stands out, which aims to minimize the load imposed on the kidneys, by the means of a nutritional and medicinal support; the therapies of renal substitution, such as the continuous ambulatory peritoneal dialysis, and automated, which is a simple for of artificially filtering the plasma, and the hemodialysis , which consists of the filtering and depuration of toxic substances of the blood with an artificial kidney; and the renal transplant. With the exception of the renal transplant, the other treatments alleviate the symptoms of the disease and preserve the individual's life, however these treatments are not curative (FRAZÃO; RAMOS; LIRA, 2011).

The hemodialysis is performed to remove degradation products and other impurities from the blood of individuals with renal insufficiency. During the procedure, that has an average duration of 3 to 4 hours, the individual´s blood is removed from his/her organism by a surgically created access by means of a fistula or catheter, with the help of a pump, and circulates to the dialysis machine, which is the filtering unit. After that, the blood returns to the individual's body (ARCHER et al., 2005). This treatment must be done at least three times a week or according to the need of each individual, although it provides rehabilitation and improvement of the quality of life, it does not provide the health state similar to the one the individual presented previously (MANGANARO et al., 2008).

The main complications of this therapeutic alternative is related to the vascular access, as the hemodynamic alterations, the electrolytic disorders and infectious problems. Among the most frequent complications, are cited arterial hypotension, convulsion, febrile reactions and shivering, headache, nauseas, physical discomfort, vomiting, dizziness, muscle cramp, chronic anemia, venous emboli, fleabites, venous spasm , hemolysis, excessive bleeding, cardiovascular complications and calcium metabolism disorders (SWEARINGEN; KEEN, 2005).

The individuals in hemodialysis treatment become discouraged and depressed, despite the fact that this procedure indefinitely prolongs the individuals' life, but it does not totally control the alterations of the natural course of the disease, producing long-term inconsistent results (FRAZÃO; RAMOS; LIRA, 2011). Thereby, there will be limitations to their daily lives and the experience of feelings of loss and biopsychosocial changes, which will interfere in their quality of life (MARTINS; CESARINO, 2005). Their physical debilitation makes it difficult to maintain their usual habits, causing social isolation, job loss, dependency on the Social Security, impossibility of transportation and rides, reduction of physical activities, the need to adapt to the autonomy loss, alterations in the corporal image and, still, a feeling of restrictions (GRINCENKOV et al., 2011)

In face of the exposed, the study aimed to identify the comorbidities of chronic renal patients and the main complications manifested during the hemodialysis treatment.

METHOD

A cross-sectional epidemiological study, of descriptive nature with a quantitative approach. The study was carried out in the Santo Amaro Nephrological Clinic, located in the municipality of Patos-PB, Brazil. The choice of the place was due to the fact that this clinic, founded in 2001, is the only hemodialysis center in the city, providing care to individuals with chronic renal disease. The population was composed of individuals with CRI in hemodialysis treatment, totalizing 85, however only 58 individuals took part in the research. During the data collection carried out in the period from September to October 2011, initially the researcher provided clarifications about the research , followed by the collection itself, during the dialysis sessions, with the stable procedure. For the analysis, the data was tabulated on an Excel for windows spreadsheet and analyzed through descriptive statistics (frequencies, measures of central tendencies and measures of dispersion). Considering the Resolution 196/96 on research with human beings, and was approved by the Ethics Committee under protocol CE/UCS-093/2011.

RESULTS

In the present study, the average age of the 58 investigated individuals was of 44,4 years of age ± 13,9 years of age. 30 of the participants (51,7%) were of the male gender. The age group varied between 18 to 79 years of age, but the adult age group between 18 to 59 years of age prevailed (81%). Regarding the skin color, the black and brown-skinned were the groups of highest prevalence. As for schooling, it was observed that (82,7%) knew how to read and write. Furthermore, the majority of the people

interviewed had a partner (60,3%).

Table 1- Distribution of the causes and comorbidities related to the insufficiency

Causes of CRI	Total		Comorbidities	Total	
	n	%		n	%
Chronic glomerulonephritis	0	0	Cardiac insufficiency	6	10,3
Tubulo-interstitial nephritis	1	1,7	Myocardial infarction	4	6,9
Polycystic kidneys	5	8,6	Cerebrovascular disease	0	0
Diabetes Mellitus type 1	0	0	Pericarditis	0	0
Diabetes Mellitus type 2	6	10,3	Varicose veins	2	3,4
Chronic pyelonephritis	1	1,7	Malignant neoplasms	0	0
Cardiovascular diseases	1	1,7	Autoimmune disease	0	0
ARF	0	0	Visual impairment	4	6,9
Arterial Hypertension	27	46,6	Benign neoplasm	0	0
Lupus nephritis	0	0	Cataract	2	3,4
Others(s)	12	20,7	Osteopathologies	1	1,7
Undetermined	7	12,1	Hepatopathies	0	0
Does not know	4	6,9	Arterial hypertension	20	34,5
			Diabetes Mellitus	8	13,8
			Auditory deficit	0	0
			Others	2	3,4

According to table 1, it is possible to verify that the main causes of CRI referred to by the interviewed patients were arterial hypertension (46,6%), other causes (20,7%), undetermined (12,1%), diabetes mellitus type 2 (10,3%) and polycystic kidneys (8,6%). Regarding the distribution of the comorbidities related to the CRI, the most frequently found were: arterial hypertension (34,5%), diabetes mellitus (13,8%), cardiac insufficiency (10,3%) and myocardial infarction (6,9%) and visual impairment (6,9%) It was calculated in 0,8 the average number of comorbidities of each patient.

Table 2 – Distribution of the physical complications related to the CRI in patients in hemodialysis treatment (n=58)

Physical complications related to the CRI and hemodialysis	Total	
	n	%
Cramp	38	65,5
Arterial hypotension (during dialysis)	21	36,2
Arterial hypertension (during dialysis)	28	48,3
Headache	28	48,3
Weakness	29	50,0
Pain	15	25,9
Repetitive infection	0	0
Infertility	2	3,4
Anemia	22	37,9
Itching	20	34,5
Weight loss	26	44,8
Weight gain	11	19
Intestinal constipation	16	27,6
Cardiac arrhythmia	14	24,1
Other(s)	0	0

According to the table 2, which contemplates the distribution of the physical complications related to the CRI in patients in hemodialysis treatment, it can be seen that the greater prevalence were cramp (65,5%), weakness (50%), arterial hypertension during dialysis (48,3%), headache (48,3%) and weight loss (44,8%). It was calculated in 4,7 the average number of physical complications for each patient.

DISCUSSION

In relation to the gender of the studied population, there was no significant difference between the male and female gender. In the 2011 census of the Brazilian Society of Nephrology (SBN, 2011), of the 50.128 patients in dialysis, 57,3% (28.739) are of the male gender and 42,7% (21.389) are of the female gender.

The average age of the individuals who constituted the studied population, was of 44,4 years of age and the majority (81%) was composed of adults, with ages between 18 and 59, and the minority (19%) of elderly people, with ages equal of above 60 years old. Similar results were described by Kusumoto et al. (2008). According to the 2011 census of the SBN (2011), 66,9% of the patients in dialysis are in the 19 and 64 age group. The 20 year-old age group is the peak of the individual´s physical development. Thereby, the impact of a serious chronic disease in the life of these adults may generate a lower perception of their quality of life (MARIOTTI, 2009). It is important to highlight that the increase of the population with CRI may be attributed to the ageing of the general population (ROMÃO JÚNIOR et al., 2003).

As for the educational levels, it was observed that the majority of the individuals knew how to read and write. Studies (KUSUMOTO et al., 2008; SESSO; RODRIGUES-NETO; FERRAZ, 2003) observed similar results to the present study. The variable educational levels does not explain the pathological process, but is an element of great importance in the early diagnosis and treatment, seen that the search for health services happens in the initial symptoms stage among individuals with higher educational levels, maybe due to the facility of communication with the professional responsible for their medical care . On the other hand, the low levels of education reveled the fact that it was a matter of dealing with poor and uneducated individuals, making the understanding and adhesion to the hemodialysis treatment (CALADO et al., 2007).

The findings related to the marital status corroborate with those of Kusumoto et al. (2008) in which there was a greater prevalence of individuals who live with partners of spouses. This fact may be considered as being a positive point, as the companion may provide support to the individual in the diagnosis of the disease and during the treatment, so that they do not feel alone during this battle, as they have the family support. The fact that they live with their families and have someone to accompany them may contribute to improve the social support, assuming a protective role related to the complications arising from the CRI, hemodialysis treatment and the comorbidities (MADEIRO et al., 2010).

Regarding the causes of CRI, the result of greater prevalence was arterial hypertension, followed by diabetes mellitus and polycystic kidneys, coinciding with the data from the 2011 census of the SBN (2011) , which point as causes of CRI the arterial hypertension (35,1%) , diabetes mellitus (28,4%), glomerulonephritis (11,4%), polycystic kidneys (3,8%) others (12%) and

undefined (9,3%). The causes of CRI involve the primary diseases and systemic diseases which involve the kidneys and the urinary tract diseases (SANTOS; ROCHA; BERARDINELLI, 2011). Studies (SANTOS; ROCHA; BERARDINELLI, 2011; SESSO et al., 2010) demonstrate that the most common causes of CRI are hypertension, diabetes mellitus and glomerulonephritis. The number of patients with CRI has been increasing due to the ageing of the general population and to the rise in the numbers of patients with arterial hypertension, diabetes mellitus or family history of the disease (ROMÃO JÚNIOR et al., 2003). As the arterial hypertension and diabetes mellitus are silent diseases, the patients may not be aware that they have them, or even, be aware, but not adhere to treatment because they judge it as being unnecessary, as there are no important clinical manifestations. Thus, the non-monitoring and the inadequate treatment of these diseases, as well as the passing of the years, will develop slow and progressive lesions in the kidneys, and may lead to the CRI (KUSUMOTO et al., 2008).

In the present study, the comorbidities of highest prevalence were arterial hypertension, diabetes mellitus and cardiac insufficiency. This is due to the treatment's overload. The hypertensive crisis is a frequent complication in these individuals, as a sudden elevation of the arterial pressure during dialysis may be due to the volume overload, anxiety or imbalance syndrome (TERRA et al., 2010). It is important to highlight that the magnitude of the renal insufficiency process is not only due to the clinical manifestations resulting from the failure of the filtration process, but also to the causal chronic pathologies which contribute to the aggravation of the clinical and emotional state of its bearer (SMELTZER; BARE, 2006).

Among the most frequent physical complications in the study, are observed cramp, weakness, arterial hypertension during dialysis, headache and weight loss. The CRI and the hemodialysis treatment cause alterations in the cardiovascular, gastrointestinal, musculoskeletal and epithelial systems of the patient. The precocious ageing is one of the characteristics of the disease due to the impairment of the muscular and skeletal system, skin discoloration, edema, weight loss, lack of energy to perform their daily activities and feeling of weariness. With this, the patients with CRI in hemodialysis treatment face losses associated both in the physical dimension, as well as in the personal dimension, manifested by sadness, frustration, depression and anger (TRENTINI et al., 2004).

CONCLUSION

Among the individuals who participated in the study, the majority was composed of men, Young adults (18 to 59 year-olds) , who lived with a companion. Regarding the comorbidities associated to the CRI it was identified that the arterial hypertension and diabetes mellitus as being the most prevalent and the main complications were: cramp, weakness, arterial hypertension during dialysis, headache and weight loss, elements to be considered in the health care.

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COMORBIDITIES IN CHRONIC RENAL PATIENTS AND COMPLICATIONS ASSOCIATED TO THE HEMODIALYSIS TREATMENT

ABSTRACT

Objective: Identify the comorbidities of the chronic renal patients and research the main complications manifested during the hemodialysis treatment. Method: cross-sectional epidemiological research, carried out at the Santo Amaro Nephrological Clinic, in the municipality of Patos-PB with individuals in hemodialysis, in the months of September to October 2011. The analysis occurred through descriptive statics. Results: 51,7% of the participants were men, 81% in the age group between 18 to 59 year-olds. In relation to the comorbidities of the CRI were identified arterial hypertension (34,5%), diabetes mellitus (13,8%), cardiac insufficiency (10,3%) and myocardial infarction (6,9%) and visual impairment (6,9%). The main complications were: cramps (65,5%), weakness (50%), arterial hypertension during dialysis (48,3%), headache (48,3%) and weight loss (44,8%). Conclusion: many are the comorbidities associated to the chronic renal patient; however, arterial hypertension and the diabetes mellitus are highlighted, and should be considered in the health care.

KEYWORDS: Chronic Renal Insufficiency. Comorbidity. Renal Dialysis.

COMORBIDITÉS CHRONIQUES PATIENTS RÉNALE ASSOCIÉE ET COMPLICATIONS À L'HÉMODIALYSE

RÉSUMÉ

Objectif: identifier les comorbidités des patients atteints d'IRC et des complications majeures qui se manifestent pendant l'hémodialyse. Méthode: transversale recherche épidémiologique menée à la Clinique Néphrologique Santo Amaro, dans la municipalité de Patos-PB avec des personnes en hémodialyse, dans les mois de Septembre-Octobre 2011 analyse était de statistiques descriptives. Résultats: Parmi les participants, 51,7% étaient des hommes, 81% ont entre 18-59 ans. Comorbidités ont été identifiés en ce qui concerne l'hypertension (34,5%), le diabète (13,8%), l'insuffisance cardiaque (10,3%) et l'infarctus du myocarde (6,9%) et la déficience visuelle (6,9 %). Les principales complications étaient crampe (65,5%), la faiblesse (50%), l'hypertension artérielle pendant la dialyse (48,3%), les céphalées (48,3%) et la perte de poids (44,8%). Conclusion: Beaucoup sont associés à des patients d'insuffisance rénale chronique, cependant, en particulier l'hypertension et le diabète sucré comorbidités, doit être pris en compte dans les soins de santé.

Mots-clés: insuffisance Rénale Chronique. Comorbidité. Dialyse Rénale.

COMORBILIDADES DE LOS PACIENTES RENALES CRÓNICOS Y COMPLICACIONES ASOCIADOS CON LA HEMODIÁLISIS

RESUMEN

Objetivo: Identificar las comorbilidades de los pacientes renales crónicos y las principales complicaciones que se manifiestan durante la hemodiálisis. Método: Estudio transversal de investigación epidemiológica que se llevó a cabo en la Clínica Nefrológica Santo Amaro, en el municipio de Patos-PB con las personas en hemodiálisis, en los meses de septiembre-octubre de 2011 El análisis fue por estadística descriptiva. Resultados: De los participantes, 51,7% eran hombres, el 81% con edades comprendidas entre 18-59 años. En cuanto a las comorbilidades se identificaron hipertensión (34,5%), diabetes mellitus (13,8%), insuficiencia cardiaca (10,3%) y el infarto de miocardio (6,9%) y la discapacidad visual (6,9 %). Las principales complicaciones fueron calambre (65,5%), debilidad (50%), la hipertensión arterial durante la diálisis (48,3%), cefalea (48,3%) y pérdida de peso (44,8%). Conclusión: Hay muchas comorbilidades asociadas con pacientes renales crónicos, sin embargo, especialmente la hipertensión y la diabetes mellitus, y se deben considerar en la atención sanitaria.

PALABRAS CLAVE: Insuficiencia Renal Crónica. La comorbilidad. Diálisis Renal.

COMORBIDADES DE PACIENTES RENAIS CRÔNICOS E COMPLICAÇÕES ASSOCIADAS AO TRATAMENTO HEMODIALÍTICO

RESUMO

Objetivo: Identificar as comorbidades dos pacientes renais crônicos e as principais complicações manifestadas durante o tratamento hemodialítico. Método: Pesquisa epidemiológica transversal, sendo realizada na Clínica Nefrológica Santo Amaro, no município de Patos-PB com indivíduos em hemodiálise, nos meses de setembro a outubro de 2011. A análise ocorreu mediante estatística descritiva. Resultados: Dos participantes, 51,7% eram homens, 81% na faixa etária entre 18 a 59 anos. Em relação as comorbidades identificaram-se hipertensão arterial (34,5%), diabetes mellitus (13,8%), insuficiência cardíaca (10,3%) e infarto do miocárdio (6,9%) e déficit visual (6,9%). As principais complicações foram: câibra (65,5%), fraqueza (50%), hipertensão arterial durante diálise (48,3%), dor de cabeça (48,3%) e perda de peso (44,8%). Conclusão: Muitas são as comorbidades associadas ao paciente renal crônico, entretanto, destaque para a hipertensão arterial e o diabetes mellitus, devendo ser consideradas na assistência à saúde.

PALAVRAS-CHAVE: Insuficiência Renal Crônica. Comorbidade. Diálise Renal.