

PLEURAL EFFUSION IN PATIENTS TREATED WITH LONG TERM HEMODIALYSIS

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Abstract:Chronic Kidney Terminal Injury or End Stage Renal Disease (ESRD) is a clinical condition associated with progressive and irreversible damage to the kidney tissue during their various diseases and the urinary tract.As a consequence of the expanded use of long-term hemodialysis and extended life spans, complications of chronic renal failure are encountered with an increased frequency among uremic patients. Such patients may develop many thoracic and extrathoracic problems--most frequently uremic pleuritis and pericarditis, uremic pneumonia, infection, and metastatic pulmonary calcification. Chronic hemodialysis (HD) patients are predisposed to several complications associated with pleural effusion. In addition, uremia can directly cause pleuritis. Among these patients, patients with uremic pleuritis were identified and studied. The rate of uremic pleuritis was 23.7%. Other frequent etiologies of pleural effusion were parapneumonic effusion (23.7%), cardiac failure (19.7%), tuberculosis (6.6%), volume overload, malignancy, and unknown. In patients with uremic pleuritis, dyspnea was the most common symptom, followed by cough, weight loss, anorexia, chest pain, and fever. Pleural fluid analysis showed that these patients had a significantly lower pleural to serum lactic dehydrogenase ratio, total pleural leukocytes, and polymerphuclear count compared to patients with parapneumonic effusion. Improvement was achieved in 94.1% of patients with uremic pleuritis by continuation of HD, chest tube insertion or pleural decortication; an outcome better than the previous reports. Despite the association with an exudative effusion, inflammatory pleural reactions in patients with uremic pleuritis may not be as severe as infection-induced effusions. Owing to the advancement in HD technology and other interventions, outcome of uremic pleuritis may be improved. Pleural effusion is a ubiquitous complication in hemodialysis (HD) patients (1). Common etiologies of pleural effusion in this patient group are heart failure, volume overload, parapneumonic effusion, tuberculous pleuritis, and uremic pleuritis (2,3). Because of the frequency with which this complication is associated with volume overload or heart failure, empirical reduction of the dry weight (DW) is often attempted without thoracentesis (1).**Materials and methods:** We study were 120 patients in total perfeshire treated with HD-54 (45%) were girls whilst 64 (55%) were male, with an average age: 58.20± 18.0 years, be treated with dialysis more than 12 years clinic of Nephrology Skopje and Clinical Hospital of Tetovo . The group of examiners control your sound support structures (volunteer blood donors) also were 54 (45%) women and 64 (55%) men had the same group of patients also by age, gender or religious and national affiliation. **Results:** Chronic pulmonary obstruction was present in 12/54 (22.2%) of female while the male gender was present in 20/66 (30.3%). Pleurisy eksudativ backlash as a result of global hiperkapni poliserosit and due to the lack of or inefficient ultrafiltration ,, compliance-a "by patients due to the hipohidrik jopermbajtjes së regjimit dietetik. Pleurisy bilateral eksudativ the female gender was present in 8 (14.8%) of the total patients = 54 patients examined was present while unilateral Pleurisy to 11/54 (20.4%) of patients examined female gender. The patients examined Pleurisy males unilateral gender was examined in 18/66 (27.3%), while bilateral Pleurisy was examined at the 16 /66(24.2%) of cases . Diagnosis was verified on the basis of the clinical symptoms , ultrasound, x-ray of lung and respiratory function tests help. Statistical tests atistikore methods were used basic arithmetic average and standard devijacioni $X \pm SD$. Comparative statistics of lipid and lipoprotein parameters between the two groups were analyzed to test the so-called Studentov,, t "while for examples dependent or independent and non-parametric tests were used tests: Mann-Whitney-U and Wilcoxon's test

Index terms: pleural effusion, long term hemodialysis

1 INTRODUCTION

Renal insufficiency is a chronic reduction of glomerular filtration debut (FG), with a progressive increase in creatinemia and urea. ESRD can also be defined as a coherence of common biological and clinical disorders called chronic uremia. This is due to the progressive loss of nephron function. In many cases, the rhythmic progression of kidney function impairment is a silent process and the patient has known his kidneys is acting a serious illness with consequent reversibility. Often, it may happen that during a laboratory examination, there is a kidney disease that has progressed to the uremia (6).One of the chronic complications of ESRD-treated patients with long terms HD-reversible is uremic-exudative pleural effusion. Exudative lavage is manifested as a result of the polyisocyte reaction and global hypercapnia due to ineffective ultrafiltration or lack of "compliance" by patients due to Hypoglycemic regimen. Regardless of the considered variations in body fluids, it is more than necessary that the ultrafiltration (Uf) regulation during HD

sessions should not exceed more than 2% of the so-called dry body mass in HD treated patients (p .b.2% from 70kg = 1400ml) However, most patients do not present adequacy and in the period between HD sessions they cumulate much excessive amounts of fluid (approximately up to 6-7% of the dry body mass) . Excessive water quantities lead to the circulatory hypersensor with a voluminous increase in arterial pressure and its complications. On the other hand, chronic hyperhydration causes edema in the visceral parenchyma and transudates in serous viruses by manifested polyisosis (plyserositis), pleura (pleurosia), ascites and hydroperikardium. Uremic pleurisy complications in uremic patients with recurrent HD have been known many years ago, but little attention has been paid to them despite their high incidence. The basic mechanisms of exudative pleurisy appear to relate to the forces of filtration through subpleural capillaries and lymphatic absorption or from other above-mentioned causes in the text that occur in patients with

chronic renal failure (4,5,11). Sensibility and sensitivity to the development of exudative pleurisy as a complication during HD session for many known causes and unknown etiologies, because there are evidence that the mode and mode of dialysis is supposed to be one of the causes of exudative pleurisy. In addition, numerous studies have verified that in particular uremic patients treated with chronic hemodialysis have necrotic character with fibrinous exudate and often hemorrhagic times (7.8). During the treatment of spontaneous pleural pleuritis in the form of pleural thickening passes into the constrictive pleura which requires surgical decortication. There are no definitive suggestions on pathogenesis and safe treatment of urethral pleurisy although its treatment consists and is in most cases dependent on the definitive symptoms. However, there is insufficient data on the pathogenesis and natural flow of uremic pleurisy. The main pleurisy symptoms begin with dyspnoea, fatigue, chest pain, fever, temperature, excessive overload and increased body weight. The prolonged duration of dialysis dialysis time ranging from 3.5 to 4.5 or 5 hours, adherence to dietary regimen, broad spectrum antibiotic treatment, corticotherapy treatment, bronchodilator, symptomatic antipyretic and anti-rheumatic non-steroidal or steroid therapy have significantly influenced Treatment of uremic pleurisy and prevention of its occurrence in patients with TB, pleural inflammation, etc. (1). As common etiologies of exudative pleurisy in chronic HDP treated patients, there are also congestive heart failure, volume overload, epinephalitis, tuberculosis pleura, etc. (2). Due to the frequency with which this complication is associated with voluminous overload or cardiac failure, the reduction in dry body weight has led to severe thoracentesis often not being used. Pleural abnormalities of uremia have been recognized for many years but have been given little attention despite their high incidence. Mechanisms underlying pleural effusion relate to filtration forces across subpleural capillaries and lymphatic absorption, either of which can be abnormal in patients with renal failure (4,5). Uremic patients have increased susceptibility to many causes of pleural

exudate. In addition, a specific uremic pleuritis has been characterized as necrotizing fibrinous sterile exudate that is often hemorrhagic. Spontaneous remission, often with recurrences, or constrictive pleural thickening requiring surgical decortication may occur. Neither the pathogenesis nor the appropriate treatment of uremic pleuritis has been established definitively. Pleurisy symptoms begin with dyspnea, fatigue, chest pain, fever, temperature, volume overload and increase the weight with the help of limited body weight. But treatment duration with the points during the HD, dietetik hygiene compliance regime, treatment with broad spectrum antibiotics, over dose with corticotherapy, bronchodilator, antipiretic symptoms began to improve. Pleural effusion is a ubiquitous complication in HD patients (1). Common etiologies of pleural effusion in this patient group are heart failure, volume overload, parapneumonic effusion, tuberculous pleuritis, and uremic pleuritis (2). Because of the frequency with which this complication is associated with volume overload or heart failure, empirical reduction of the dry weight (DW) is often attempted without thoracentesis (1). In patients with uremic pleuritis, dyspnea was the most common symptom, followed by cough, weight loss, anorexia, chest pain, and fever. Compared to patients with parapneumonic effusion, patients with uremic effusion had a significantly higher rate of dyspnea and lower rate of cough and fever. Pleural fluid analysis showed that these patients had a significantly lower pleural to serum lactic dehydrogenase ratio, total pleural leukocytes, and polymorphonuclear count compared to patients with parapneumonic effusion. Improvement was achieved in 94.1% of patients with uremic pleuritis by continuation of HD, chest tube insertion or pleural decortication; an outcome better than the previous reports. Despite the association with an exudative effusion, inflammatory pleural reactions in patients with uremic pleuritis may not be as severe as infection-induced effusions. Owing to the advancement in HD technology and other interventions, outcome of uremic pleuritis may be improved.

2 MATERIALS AND METHOD

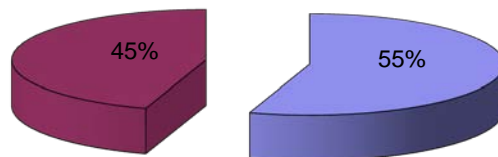
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RESULTS: Chronic pulmonary obstruction was present in 12/54 (22.2%) of female while the male gender

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Table and chart no. 1: Patient distribution by sex and middle age

Gender	Average	Age number \pm SD
Men	66 (55%)	58.20 \pm 18.0
Females	54 (45%)	58.20 \pm 18.0



Graph. number 1

3 GAINED RESULTS

Statistical tests and methods were used basic arithmetic average and standard devijacioni $X \pm SD$. Comparative statistics of lipid and lipoprotein parameters between the two groups were analyzed to test the so-called Studentov,, t "while for examples

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Table number 2. Lung complications in patients treated with long term hemodialysis

Complications of the Lung	Females		Men	
	Number	%	Number	%
Pleuritis bilateral	8	14.8	16	24.2
Pleuritis unilateral	11	20.4	18	27.3

4 DISCUSSION

Pleuritis is a pleural inflammation which is usually manifested by the appearance of the smallest or largest amount of exudate in the pleural space. The fluid in the pleura is inflamed when its production as a result of any inflammatory process exceeds and increases its absorption into the pleura. Lymphatic pathways have the ability to absorb 20 times the greater amount of fluid that is normally produced, which means when this The absorption limit and the production increase, then we have manifestations of the effusion. Generally, depending on the exudate, three types of pleura are distinguished:

- 1) Fibrinous pleurisy or "dry" pleurisy, when the amount of fibrin-rich exudate is so small that under ordinary examination is not observed at all.
- 2) Exudative pleurisy, with quantization of serous or serum exudate and
3. Pleuriti purulent, when the exudate is purulent with pus.

Bacillus tuberculosis is still the most common cause of pleurisy, especially in younger people. The most common causes are: Gram positive bacteria: Streptococcus and Staphylococcus, the negative gram bacteria, Esherichia coli,

Klebsiella and Pseudomonas, and anaerobic bacteria and adenoviruses, the group coxsackie, echo-virus, psittacosis, and rarely, Herpes Simplex. About 60% of pneumococcal pneumonia, 40% of all bacterial pneumonitis are associated with lower or greater pleural effusion. Viral and mycoplasmic infections are also occasionally permeated with pleural effusion. If the presence of exudate precedes dry pleurisy then exudative pleurisy symptoms (pleuritis exsudativa) are accompanied by all of the above-mentioned symptoms such as: slow body temperature rise, Loss of appetite, loss of appetite, loss of body weight, sweating but there are instances of immediate temperature increase associated with tachycardia and tachycardia. In the pleura, large amounts of serofibrinous exudates are formed which separate the pleura sheets. Complication dominated the two target groups of the examined patients (females and males-120), chronic obstruction of mshkerveive and Pleurisy eksudativ. Infectious disease including parapneumonic

CONCLUSION

In conclusion, we can verify that volumizing overload, increased body weight, infectious diseases, frequent inflammation as a result of impaired immunity, MIA tuberculosis ineffective inactivity may be the most common causes of uremic pleurisy in patients treated with ESRD with long term recurrent HD. Our study verified that the uremic pleurisy of these patients was significantly cured with lower loci-dehydrogenase serum, increased number of leukocytes and polymer-phonucleases, increased sediment and increased concentration of C-proteins -reaktive.

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effusion and tuberculosis can be the most common causes of pleural effusion in hemodialysis patients. This study showed that some inflammatory pleural reactions such as increase in pleural leukocyte count may be attenuated in hemodialysis patients. Pleural fluid analysis showed that these patients had a significantly lower pleural to serum lactic dehydrogenase ratio, total pleural leukocytes, and polymorphonuclear count compared to patients with parapneumonic effusion. Improvement was achieved in 94.1% of patients with uremic pleuritis by continuation of HD. Despite the association with an exudative effusion, inflammatory pleural reactions in patients with uremic pleuritis may not be as severe as infection-induced effusions. Owing to the advancement in HD technology and other interventions, outcome of uremic pleuritis may be improved.

Improvement was achieved in 94.0% of uremic pleurisy patients with the extension of HD duration duration as well as broad spectrum antibiotic treatment. Due to the advancement and improvement of HD technology and modalities, permanent patient education for the respect of body weight and the use of biochemia and other interventions, the uremic pleurisy manifestations in the centers of hemodialysis have been significantly improved and reduced.

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