



## Commencement of Dialysis (Article Review)

Vian Hussam Almansi Alqani<sup>1</sup>, Mudhfar Mohammed Meizel<sup>2</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, College of Medicine, University of Al-Qadisiyah, Al-Diwaniyah Province, Iraq

<sup>2</sup>Department of Medicine, College of Medicine, University of Al-Qadisiyah, Al-Diwaniyah Province, Iraq

Email of corresponding author: [mudhfar.meizel@qu.edu.iq](mailto:mudhfar.meizel@qu.edu.iq)

### Article Info.

#### Article history:

Received 7 April 2022

Revised 28 May 2022

Published 15 June 2022

#### Keywords:

Dialysis initiation, Renal failure, Kidney disease, Early dialysis

#### How to cite:

Vian Hussam Almansi Alqani, Mudhfar Mohammed Meizel, Commencement of Dialysis. Aca. Intl. J. Med. Sci., 2022;1(1):28-32: <https://doi.org/10.59675/M2022-05>

#### Copyright:

© 2022 A.I. Publishers.  
All rights reserved.

### Abstract

This study aims to lay out information on the commencement of dialysis in the human body. In this case, the paper has considered an article that deals with beginning dialysis in patients with renal disease or failure. Early dialysis can be one of the effective ways to be a positive factor that can heal renal failure among patients. The paper has also reviewed other relevant articles to support the aspect presented by the primary authors.

### Introduction

The paper will deal with one of the most critical medical topics related to dialysis commencement among patients. It will be evaluated that the reduction in proper nutrition is one of the reasons that has brought renal disease among humans. The paper will analyze the medical considerations presented and review the aspects of other researchers to support the chosen article's viewpoint.

### Discussion

The choice to commence dialysis in a patient who has a “progressive renal disease” depends majorly on the evaluation made by the surgeon or the physician regarding the patient having subjective symptoms of uremia. As per current evidence, it has been proven that malnutrition that takes place during the “initiation of dialysis” of a patient is a strong predictor of ‘succeeding and augmented relative risk of death’ on dialysis. The importance of the role that is being played by prescribed protein restriction, along with the inspiration of the development of ‘renal disease’ due to ‘impulsive dietary protein intake’, is analyzed in the paper. The researchers of the paper have proposed the fact that the symptoms and features of malnutrition practices, including “progressive weight loss, serum albumin levels ranging below 4.0 g/d, the levels of serum transferrin ranging below 200 mg/dL and impulsive dietary intake of protein below 0.8 to 0.7 g/kg” every day can be measured as the main criteria for the initiation of the procedure of dialysis. Many researches have evaluated that the role of

initial versus late dialysis

has resulted in better outcomes in patients who have started to run through the dialysis process earlier. Other researchers have also elaborated that early commencement of dialysis the nephrologists result in improved morbidity and mortality and the cost of hospitalization. In the whole procedure, adequate vascular access, including 'social and psychological preparation of the patient', is one of the important steps of the commencement of dialysis. The decision to commence dialysis among patients who have gone through chronic renal failure includes the deliberation of different 'subjective and few are objective parameters' that the physician and patient make.

The subjective parameters are often inclined to a greater amount by the perception of the patient regarding their quality of life and anxious factors before initiating a complex technical theory. This happens because 'social and psychological considerations' play an important part in the physician's decision to initiate 'dialysis or undergo the procedure of transplantation'. It must be emphasized in this study that the article involves the opinions of the physicians as well as a lot more scientific data. In the past few years, some of the studies have been analyzed, and it has been found that the methods to reduce the "progression of renal failure and delay the beginning of fatal renal failure" lead to the avoidance of dialysis. These efforts have been broadcasted to save money for both patients and society at a large rate and prevent the patient from gaining knowledge on the negative sides of dialysis.

The article has mainly dealt with the fact that proper provision of treatment to patients is essential. Still, another thing is also necessary, which includes the right time to execute the dialysis procedure. As recollected from the article, the conduction of the therapy must be done at such a time when the real risks while delaying the therapy overshadow the advantages of holding it. For patients with renal failure, it is generally the system to perform the method of transplantation when the patient has 'substantial residual renal function' and is in a situation of relative well-being [1]. The reason for heartening the patients not to tolerate traditional 'extended treatment of renal disease' which is the resumption of near-normal renal features along with positive transplantation. The indications for the commencement of dialysis has been widely accepted as one of the traditional procedures that includes enhancing life-threatening events. In order to support the aspect of the article, it can be considered from the viewpoint of other researchers that the early initiation of dialysis is responsible for enhancing the nutritional benefits with a reduction in hospitalization, mortality, and costs. Dialysis at the primary stage is also one of the ways to expose the patient to difficulties, unnecessary lifestyle restriction, and potentially enhanced costing [2]. As per some researchers, the concept is vague that the early flinch of dialysis is advantageous or harmful in regard to the dialysis treatment of ESRD or end-stage renal disease. Some of the available data have been successful in showing the fact that the rate of mortality while executing the therapy of dialysis is much higher than those who start early dialysis. Comorbidities that are contemporary during the time of commencement of dialysis do not result as one of the driving force for the patients who starts dialysis earlier. The residual kidney programs present among these patients are considered to be the "major donor to total urea or creatinine clearance". It has been considered after research that it is one of the positive factors for patients that can be compromised by starting the dialysis procedure earlier [3].

The right timing of commencement of dialysis for conducting the ESRD is a matter of clinical judgment, which is guided by the factors of residual kidney functions and the symptoms present in the patients, especially those related to comorbidity. In the year 1999, some group of researchers

observed the fact “23% of the US ESRD population between the years 1995 and 1997 started the treatment of dialysis at an eGFR lesser than 5 ml/min per 1.73 m<sup>2</sup>”. In their opinion, this is the late start of dialysis, and it needs much more assessment, including studies of the effect on the outcomes and the cost of “ESRD treatment” [4]. Though there has been variation in the timing of the dialysis commencement for patients suffering from severe renal failure. Some group of researchers has surveyed the places of Australia and New Zealand by checking whether early dialysis has a positive effect on the targeted patients. They have examined patients 18 years of age or older with “progressive renal kidney disease and glomerular filtration rates within 10.0 and 15.0 ml per minute 1.73 m<sup>2</sup> of the body's surface area”. The results showed that the early initiation of dialysis in patients suffering from stage V renal failure had not responded positively to the enhancement of the condition of survival [5]. As per the concerns of the practitioners, it has been found that the late commencement of dialysis within the patients might be more detrimental rather than early dialysis, which has resulted in negative consequences among the patients who have visited the nephrologists at a much later stage [6].

The determination of renal functions among CRF patients has been properly elaborated in the paper. The majority of physicians or nephrologists have considered the target values of renal function as an indicator for the commencement of dialysis. The target values might comprise the specific value of “serum creatinine or blood urea nitrogen, or it might be urinary creatinine clearance”. The article has also stated the fact that the “Health Care Financing Administration” has currently arranged a set of criteria for renal failure on which the reimbursement of medical care will depend [1]. “Renal function at the commencement of the dialysis treatment” has been clearly elaborated in the paper, along with medical evidence. The role of the restriction of protein in the development of renal disease and the nutritional status of the patients have been demonstrated by the researchers based on numerous clinical references. Equality within the treatment of dialysis and the residual renal program has been clearly mentioned in the article. Spontaneous intake of protein definitely has an effect on the “progression of renal disease”. It has been found that the lower rate of GFR is held responsible for the increased intake of protein. It has also been found that the primary symptoms of “protein and calorie malnutrition” have started earlier in the progression of chronic renal disease or renal failure. It has been proven that the intake of protein has resulted in a reduction of GFR, which was less than 10 ml/min. Thus it was concluded that the reduction of proper dietary intake and energy is the early index of having uremia and reasonably can be held responsible for becoming the indicator of executing dialysis [1]. In some of the previous clinical references, it has been found that the patients who have azotemia, a reduction in the intake of food was reported without any dietary instructions in order to restrict protein intake. The reduction was thought to represent a mixture of “anorexia and alteration in the smell and taste of foods”. It has been noted that ignorance of food is often applicable to meat products, with patients who have avoided “high-protein foods” and without dietary counseling.

The researchers have conducted an analysis of the intake of protein by patients who have been suffering from renal disease. Dietary interventions within these patients happened to be minimal and included only in the attempt to weaken the hyperphosphatemia by drawing a limit to dairy products. Some of the primary results have been found, which indicates the fact that the majority of the patient have randomly brought a restriction to the dietary protein along with the enhancement of the renal failure. The outcome effect of malnutrition has been commented upon in the article. The effect which happens due to the early initiation of dialysis on the human body has been one of the

main topics of discussion in the paper. While considering the case of early dialysis, it must be analyzed that it has always been the trend to choose early dialysis for patients having the issue of chronic renal failure. The researchers have used the method of electronic patient records at the renal unit located at Glasgow Royal Infirmary [7]. The initiation of dialysis does have positive as well as negative consequences for the human body. For instance, it has been noted from an article that the patients undergoing the treatment of dialysis do have cardiac arrests or cardiovascular diseases in common. Heart failure can be considered to be one of the common disorders that have been caused by Early or Late dialysis [8]. This study can be considered to be quite informative while practicing or executing further research on the initiation of dialysis in patients.

## Conclusion

After reviewing the article, it can be analyzed that the initiation of dialysis at a specific time is very much important. In this case, early dialysis is much more positive as it can do numerous benefits to patients having the renal disease. The paper has reviewed and analyzed other articles relevant to the topic that has supported the topic regardless of the contradictory aspect, which mentions that dialysis might have a negative effect on the cardiovascular system of the human body.

## References

1. Hakim RM, Lazarus JM. Initiation of dialysis. *Journal of the American Society of Nephrology*. 1995 Nov 1;6(5):1319-28.  
<https://jasn.asnjournals.org/content/jnephrol/6/5/1319.full.pdf>
2. Beddhu S, Samore MH, Roberts MS, Stoddard GJ, Ramkumar N, Pappas LM, Cheung AK. Impact of timing of initiation of dialysis on mortality. *Journal of the American Society of Nephrology*. 2003 Sep 1;14(9):2305-12.  
<https://jasn.asnjournals.org/content/jnephrol/14/9/2305.full.pdf>
3. Rosansky SJ, Clark WF, Eggers P, Glassock RJ. Initiation of dialysis at higher GFRs: is the apparent rising tide of early dialysis harmful or helpful? *Kidney international*. 2009 Aug 1;76(3):257-61.  
<https://www.sciencedirect.com/science/article/pii/S0085253815539616>
4. Obrador GT, Arora P, Kausz AT, Ruthazer R, Pereira BJ, Levey AS. Level of renal function at the initiation of dialysis in the US end-stage renal disease population. *Kidney international*. 1999 Dec 1;56(6):2227-35.  
<https://www.sciencedirect.com/science/article/pii/S0085253815465603/pdf?md5=18e16b758af7e77bf60ed2445fb7261a&pid=1-s2.0-S0085253815465603-main.pdf>
5. Cooper BA, Branley P, Bulfone L, Collins JF, Craig JC, Fraenkel MB, Harris A, Johnson DW, Kesselhut J, Li JJ, Luxton G. A randomized, controlled trial of early versus late initiation of dialysis. *New England Journal of Medicine*. 2010 Aug 12;363(7):609-19.  
<https://www.nejm.org/doi/full/10.1056/NEJMoa1000552>
6. Kazmi WH, Gilbertson DT, Obrador GT, Guo H, Pereira BJ, Collins AJ, Kausz AT. Effect of comorbidity on the increased mortality associated with early initiation of dialysis. *American journal of kidney diseases*. 2005 Nov 1;46(5):887-96.  
<https://www.academia.edu/download/49512925/j.ajkd.2005.08.00520161010-18908-o2d111.pdf>
7. Traynor JP, Simpson K, Geddes CC, Deighan CJ, Fox JG. Early initiation of dialysis fails to

prolong survival in patients with end-stage renal failure. Journal of the American Society of Nephrology. 2002 Aug 1;13(8):2125-32.

<https://jasn.asnjournals.org/content/jnephrol/13/8/2125.full.pdf>

8. Whalley GA, Marwick TH, Doughty RN, Cooper BA, Johnson DW, Pilmore A, Harris DC, Pollock CA, Collins JF, IDEAL Echo Substudy Investigators. Effect of early initiation of dialysis on cardiac structure and function: results from the echo substudy of the IDEAL trial. American journal of kidney diseases. 2013 Feb 1;61(2):262-70. <https://www.researchbank.ac.nz/bitstream/handle/10652/2103/Whalley%2C%20G.%20%282012%29.pdf?sequence=3&isAllowed=y>