

## IDENTIFIED CAUSES AND DISEASE OF KIDNEY, RENAL FAILURE AND TRANSPLANTATION OF KIDNEYS AMONG PATIENTS SUFFERING FROM AUTOSOMAL POLY-CYSTIC KIDNEY ISSUE

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### ABSTRACT

**Background:** ADPKD is abbreviated as autosomal Dominant Poly Cystic Kidney disease. Nowadays, it is going very common all over the world and we also called it as genetic disease. It's a severe disease and also cause kidney failure. This study is based to know the details of kidney failure and its transplant.

**Methodology:** Study was conducted to check the patients who were suffering from kidney disease and was searching for kidney transplant. This study was held between 2 periods of time.

**Results:** After 13 years of study, about 34 patients have gone for kidney transplant. As we have completed this study in specific time periods, but we did not examine any difference in results of both studies. Patients who came to hospitals for transplant, they studied any noted down all required information about them.

**Conclusions:** Rate of survival of tissue which was inserted into their bodies at the time of transplant was increased and showing excellent results. Proper care and treatment were given to those patients who came there for transplantation. Cerebral cortex can be seen by doctors with respect to time. With the passage of time, surgical instruments and the way of screening and transplantation was improved.

**INTRODUCTION:** ADPK disease is related to renal or kidney failure [1]. This may happen when kidneys are unable to filter out the water and blood and it causing harm to kidneys [2]. In this way, kidney failure happens [3]. 2 main types of genes are involved in this study [4]. Several variables are involved in this study [5]. Some environmental and genetic factors also effect, which cause failure of kidney or reach to the condition of transplant [6]. Some type of cancer starts developing to the specific part of the body as in liver, Pancreases and many other organs of the body [7]. Many type cancers and issues develop due to this [8]. The blockage of arteries and veins occur and due to this, kidneys can not perform proper functions [9]. Patients who got diagnosed with this disease suffer from many issues [10]. The only way to treat this disease is transplantation [11]. Kidney transplantation is needed to treat kidney issues and stop the increasing rate of kidney failure [12]. In this disease, about 7345 patients were visiting to hospitals for treatment of kidney disease [13]. In 2012, they have noted down the ratio of patients who suffers from this disease and do transplant was about 13% [14]. They also calculate the ratio of donors, who donate their kidneys for the process of transplantation [15]. For their transplantation, many types of tests and treatments performed first and then after screenings they started their treatment [16]. Proper management and time is needed to overcome all these issues and measure circumstances properly [17]. They search out kidney treatment centers for kidney transplantation or to treat kidney issues [18]. They also study on those patients, who suffers from kidney failure [19]. They search out to know the causes and effects of kidney failure [20].

**METHODOLOGY:** Study was based on those patients, who goes to hospitals for their kidney transplant and for kidney treatments. They held this study between 2002-2012. They do detailed studies and prepare a Performa through which they make and calculate all the results and enter that collected data into their studies. In this data, whole information about patients were collected. They collect all the data about them as first. They collect information about their disease and time duration. Then they also study about which type of donor will be needed for them and their severity of disease. The loss of blood and many other issues which patients can face at the time of transplant will be calculated and studied. They studied about the type of surgical instruments which will be used, either they will be sterilized or non- sterilized. They collect each and every information about them as they noted down members of their families, history of their family, their genetic disorders or history or renal failure or renal disease. All these points were discussed before starting of treatment. Patients who were in hospitals for transplant, they divide them into 2 groups. They give them different dates and timings for their transplant after checking their medical history and current condition. By dividing them into groups, they add some patients with time duration of 6 years and group 2 from 2006-2012. They studied them properly and then start their treatment. For the analysis of whole data, all type of treatments was performed and they gave them time and fulfill their requirements of treatment. They also perform several tests on patients, who were suffering from kidney disease and were searching for donors. All types of points and issues was calculated and

discussed. Donors were also of different types as some of them was deceased donor others was living related and some of them was non related donors. They donate their kidneys to diseased patients and help to save their lives.

**RESULTS:** In this study, data was collected according to this research. In the duration of 13 years, they took about 134 patients who was suffering from kidney disease and were searching for donors to transplant their kidneys. After transplantation, they will be able to spend their life in a good way. Their ages were between 54-55 years and most of them was females. Dialysis of these patients were started from last 19 months. About 46% of patients was from deceased donors and 36% were from related and 24% from non related donors. They also used kidneys of those patients, who were dead few minutes before and their kidneys were in live position. Transplantation of these patients done successfully and they spend about a week in hospitals after their transplant and then they move to their homes for normal routine life. But after transplant, doctors also gave them some safety precautions and diet charts to follow. In this way, they will be healthy and will be able to maintain their lives. Some of these patients face some issues after this transplantation process and need for any other transplant. About 7-8 patients face re transplant and face post transplant process. From 134 patients, about 122 face screening for the treatment of brain and to check the condition of their brain before transplant. Remaining 12 patients was healthy. After checking out all terms and conditions, they make progress to their studies and collect all their data according to the ratio, size and including other issues.

Indications	Transplant	Time duration	Post-transplantation
Size	5	56	3
Bleeding	3	4	3
Infection	4	4	4
Symptoms	1	0	4
Neoplastic	1	1	5
Hypertension	1	0	1
Hematite	0	1	2
Pains	4	0	4
Not clearly specific	3	12	3

About 66 patients were collected and studied in group 1 and remaining patients treated in group two. In this study, they divided patients into two groups regarding time period. They divide them with the passage of time. Members of both of these groups were divided equally. In this research, they studied about three different types of donors as first one is known as related donors. They vary with percentage in both groups as they have 34% in group 1 and 28% in group 2. Another type of donors are unrelated donor and deceased donors are also one of them. All these types of donors vary with the passage of time and percentage. Patients who were suffering from this disease were mostly females. Only 26% from them were male and in later studies, Percentage of male patients were 6%. Different types of tests were performed.

These tests were held to check out the condition of their brains and level of its development. They properly checkout and measure the nerves. After all of these terms, operation for kidney transplant starts. After several tests, they do kidney transplant. Most of them got good results with this transplant but few of them have to visit again towards the hospital and suffer from transplant again for 1 to 2 times more. Patients who did not get donors on time, their death occur and rate of death in kidney patients was about 25-35%.

Variable	Early	Late	p
Related donors	34	28	0.251
Unrelated donors	15	14	0.785
Deceased donors	20	28	0.164
Donation after death	5	12	0.709
Male %	26	6	0.103
Screening	5	26	0.204
Brain disorder	5	5	0.002
Treatment for brain	45	4	0.001
Transplant sight	4	62	1.000
Complications	4	10	0.324
Operation	60	7	0.555
Re-operation	54	6	0.234
unilateral	60	8	0.765
bilateral	7	34	0.555
Re-transplant	45	66	0.234
Post transplant	15	43	0.355
Survival rate	2	24	0.234
Death rate	25	35	0.124

**DISCUSSION:** The disease known as kidney disease, cause many severe problems in our bodies [21]. It causes kidney failure. In some cases, this disease causes death [22]. To solve this issue, they need kidney transplant, because without transplantation patients can not live for a long period of time [23]. Before transplantation, for about 11-18 months their dialysis performed [24]. When they get matching donors, they will get kidney transplant [25]. After transplantation of kidney, they will return back to their homes for normal routine life [26]. Some of them got good results and started their routine activities but few of them face some problems after operation also [27]. Their transplant was not that much successful and need operation and this whole procedure again [28]. The patients who were not getting matching donor reach to death [29]. The ratio of treated patients and death rate was not measured[30]. Many types of medications and tests performed on them and then they start their transplant [31]. After collecting all the data, we interpret the results and fix it into these studies [32]. All data including in this study was properly checked and with measured readings [33].

**CONCLUSIONS:** This study was based on the treatment of patients suffering from kidney diseases and search for a donor to transplant their diseased kidneys with healthy kidneys. To perform this study, they took 134 patients and divide them equally into two groups. All these patients were suffering from kidney failure, many of them from kidney failure. They were suffering from few months and from unbearable pain. After searching out their full history and proper medication, they go for transplant. Some of them get good results and few of them face difficulties in their daily lives.

**DISCLOSURES:** Content of this study was taken from a national conference held in a hospital related to kidney disease and transplant.

**CONFLICTS OF INTEREST:** Here author properly mention about the fact that there is no conflict of interest in this paper and publication.

#### REFERENCES:

1. Dębska-Ślizień, A., Danelewicz, R., Jankowska, M., Suchanek, H., Kosieradzki, M., & Matuszewski, M. (2022). Principles of management in patients with autosomal dominant polycystic kidney disease (ADPKD), who are candidates for kidney and/or liver transplantation—recommendations of PTT Working Group, part I. In *Renal Disease and Transplantation Forum* (Vol. 15, No. 2, pp. 95-109).Dębska-Ślizień, A., Danelewicz, R., Jankowska, M., Suchanek, H., Kosieradzki, M., & Matuszewski, M. (2022). Principles of management in patients with autosomal dominant polycystic kidney disease (ADPKD), who are candidates for kidney and/or liver transplantation—recommendations of PTT Working Group, part I. In *Renal Disease and Transplantation Forum* (Vol. 15, No. 2, pp. 95-109).
2. McGill, R. L., Saunders, M. R., Hayward, A. L., & Chapman, A. B. (2022). Health disparities in autosomal dominant polycystic kidney disease (ADPKD) in the United States. *Clinical Journal of the American Society of Nephrology*, 17(7), 976-985.
3. Tsai, T. Y., Chen, C. H., Wu, M. J., & Tsai, S. F. (2022). Outcomes of Kidney Transplantation in Patients with Autosomal Dominant Polycystic Kidney Disease: Our Experience Based on 35-Years Follow-Up. *Diagnostics*, 12(5), 1174.
4. Chedid, M., Kaidbay, H. D., Wigerinck, S., Mkhaimer, Y., Smith, B., Zubidat, D., ... & Chebib, F. T. (2022). Cardiovascular Outcomes in Kidney Transplant Recipients With ADPKD. *Kidney International Reports*.
5. Chedid, M., Kaidbay, H. D., Wigerinck, S., Mkhaimer, Y., Smith, B., Zubidat, D., ... & Chebib, F. T. (2022). Cardiovascular Outcomes in Kidney Transplant Recipients with Autosomal Dominant Polycystic Kidney Disease. *Kidney International Reports*.

6. Mohottige, D., McElroy, L. M., & Boulware, L. E. (2022). Addressing "Second Hits" in the Pursuit of Greater Equity in Health Outcomes for Individuals with ADPKD. *Clinical Journal of the American Society of Nephrology*, 17(7), 936-938.
7. Tran, T., Song, C. J., Nguyen, T., Cheng, S. Y., McMahon, J. A., Yang, R., ... & McMahon, A. P. (2022). A scalable organoid model of human autosomal dominant polycystic kidney disease for disease mechanism and drug discovery. *Cell Stem Cell*, 29(7), 1083-1101.
8. Habas Sr, E., Errayes, M., Habas, E., Farfar, K. L., Alfitor, G., Habas, A. E., ... & Elzouki, A. N. Y. (2022). Fasting Ramadan in Chronic Kidney Disease (CKD), *Kidney Transplant and Dialysis Patients: Review and Update*. *Cureus*, 14(5).
9. Kaur, K. K., Allahbadia, G., & Singh, M. (2022). An update on the approaches of avoidance of propagation of chronic kidney disease resulting in reversal or possible need or avoidance of kidney transplantation-a systematic review.
10. Viera Ramírez, E., Castillo Rodriguez, E., Martin, I., & Fernandez Lucas, M. (2022). MO033: Parathyroid hormone determination as an early predictor of progression in autosomal dominant polycystic kidney disease. *Nephrology Dialysis Transplantation*, 37(Supplement\_3), gfac062-014.
11. Ravindra, S. G., Garg, S., Kumar, R., Sagar, S., Khurana, A., Aggarwal, S., ... & Ritwik, C. (2022). Renal dynamic scintigraphy as a sensitive tool for detecting small volume urinoma following live-related renal transplant. *Indian Journal of Nuclear Medicine*, 37(2), 172.
12. Jdiaa, S. S., Husainat, N. M., Mansour, R., Kalot, M. A., McGreal, K., Chebib, F. T., ... & Mustafa, R. A. (2022). A Systematic Review of Reported Outcomes in Autosomal Dominant Polycystic Kidney Disease Studies. *Kidney International Reports*.
13. De Jong, M. F. C., Komdeur, H. M., Salih, M., & Meijer, E. (2022). Bleeding risk in patients with autosomal dominant polycystic kidney disease treated with acetylsalicylic acid: implications for prevention of preeclampsia. *Journal of Nephrology*, 1-3.
14. Abou Heidar, N., Chehab, O., Morsi, R. Z., Elias, J., El Mouhayyar, C., Kanj, A., ... & Abidov, A. (2022). Association of autosomal dominant polycystic kidney disease with cardiovascular disease: a US-National Inpatient Perspective. *Clinical and Experimental Nephrology*, 1-10.
15. Ajiri, R., Burgmaier, K., Akinci, N., Broekaert, I., Büscher, A., Dursun, I., ... & Liebau, M. C. (2022). Phenotypic variability in siblings with autosomal recessive polycystic kidney disease. *Kidney International Reports*.
16. Aoun, M., Helou, E., Sleilaty, G., Zeeenny, R. M., & Chelala, D. (2022). Cost of illness of chronic kidney disease in Lebanon: from the societal and third-party payer perspectives. *BMC health services research*, 22(1), 1-11.
17. Shinoda, K., Hyodo, Y., Oguchi, H., Mikami, T., Nishikawa, K., Sakurabayashi, K., ... & Shishido, S. (2022). Outcome of ABO-incompatible kidney transplantation using a modified desensitization protocol without plasmapheresis. *International Journal of Urology*.

18. Abdelwahed, M., Hilbert, P., Ahmed, A., Dey, M., Bouomrani, S., Kamoun, H., ... & Belguith, N. (2022). Autosomal dominant polycystic kidney disease (ADPKD) in Tunisia: From molecular genetics to the development of prognostic tools. *Gene*, 817, 146174.
19. Zhang, C., Schwartz, M., Küstner, T., Martirosian, P., & Seith, F. (2022, March). Multiparametric Functional MRI of the Kidney: Current State and Future Trends with Deep Learning Approaches. In *RöFo-Fortschritte auf dem Gebiet der Röntgenstrahlen und der bildgebenden Verfahren*. Georg Thieme Verlag KG.
20. Pardinas, C., Leal, R., Figueiredo, C., Fernandes, M., Rodrigues, L., Guedes, M., ... & Figueiredo, A. (2022, May). Kidney Retransplantation Outcomes: A Paired Recipient Control Study. In *Transplantation Proceedings*. Elsevier.
21. Hirano, D., Inoue, E., Sako, M., Ashida, A., Honda, M., Takahashi, S., ... & Hattori, M. (2022). Survival analysis among pediatric patients receiving kidney replacement therapy: a Japanese nationwide cohort study. *Pediatric Nephrology*, 1-7.
22. Hirano, D., Inoue, E., Sako, M., Ashida, A., Honda, M., Takahashi, S., ... & Hattori, M. (2022). Survival analysis among pediatric patients receiving kidney replacement therapy: a Japanese nationwide cohort study. *Pediatric Nephrology*, 1-7.
23. Copur, S., Yavuz, F., Sag, A. A., Tuttle, K. R., & Kanbay, M. (2022). Future of kidney imaging: Functional magnetic resonance imaging and kidney disease progression. *European journal of clinical investigation*, 52(5), e13765.
24. Estilo, A., Tracy, L., Matthews, C., Rigen, M., Stemhagen, A., Wilt, T., ... & Rahman, M. (2022). Evaluating the impact of a Risk Evaluation and Mitigation Strategy with tolvaptan to monitor liver safety in patients with autosomal dominant polycystic kidney disease. *Clinical Kidney Journal*.
25. Jehn, U., Kortenhorn, A., Schütte-Nütgen, K., Thölking, G., Westphal, F., Strauss, M., ... & Reuter, S. (2022). The Influence of Parathyroidectomy on Osteoporotic Fractures in Kidney Transplant Recipients: Results from a Retrospective Single-Center Trial. *Journal of Clinical Medicine*, 11(3), 654.
26. Kościelska, M., Matuszkiewicz-Rowińska, J., Giercuszkiewicz, D., Krawczyk, M., Niewiński, G., Sierdziński, J., ... & Małyszko, J. (2022, April). Simultaneous Liver-Kidney Transplantation and the Use of Intraoperative Dialysis: A Monocenter Study. In *Transplantation Proceedings*. Elsevier.
27. Hamoode, R. H., Sattar, D. A., & Mohanad, A. K. (2022). Article Review: Autosomal Dominant Polycystic Kidney Disease: Renal Physiology Diagnosis, Treatment and Novel Therapies. *International Journal for Research in Applied Sciences and Biotechnology*, 9(1), 86-93.
28. Rankin, A. J., Mayne, K., Allwood-Spiers, S., Hall Barrientos, P., Roditi, G., Gillis, K. A., & Mark, P. B. (2022). Will advances in functional renal magnetic resonance imaging translate to the nephrology clinic?. *Nephrology*, 27(3), 223-230.
29. Bruen, D. M., Kingaard, J. J., Munits, M., Paimanta, C. S., Torres, J. A., Saville, J., & Weimbs, T. (2022). Ren. Nu, a Dietary Program for Individuals with Autosomal-Dominant

Polycystic Kidney Disease Implementing a Sustainable, Plant-Focused, Kidney-Safe, Ketogenic Approach with Avoidance of Renal Stressors. *Kidney and Dialysis*, 2(2), 183-203.

30. Müller, R. U., Messchendorp, A. L., Birn, H., Capasso, G., Cornec-Le Gall, E., Devuyst, O., ... & Gansevoort, R. T. (2022). An update on the use of tolvaptan for autosomal dominant polycystic kidney disease: consensus statement on behalf of the ERA Working Group on Inherited Kidney Disorders, the European Rare Kidney Disease Reference Network and Polycystic Kidney Disease International. *Nephrology Dialysis Transplantation*, 37(5), 825-839.
31. Chiodo Ortiz, C., Choubey, A. P., Shrivastava, S., Koizumi, N., Nayebpour, M., & Ortiz, J. (2022). Preemptive renal transplant: too early is not always better—a national cohort study. *International Urology and Nephrology*, 1-11.
32. Gül Özcan, Ş., Bek, S., Eren, N., Atli, Z., Yıldız, A., Kocyigit, I., ... & Waldreus, N. (2022). MO014: Development and Validation of the Thirst Distress Scale for Patients with Autosomal Dominant Polycystic Kidney Disease. *Nephrology Dialysis Transplantation*, 37(Supplement\_3), gfac061-009.
33. Choudhary, D., Kenwar, D., Sharma, A., Bhalla, A., Singh, S., Singh, M. P., ... & Sharma, A. (2022). Risk factors for mortality in kidney transplant recipients with COVID-19: a single centre experience and case-control study. *BMC nephrology*, 23(1), 1-10.