Commentary

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A Brief Note on Chronic Kidney Disease and its Complications

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About the Study

Chronic Kidney Disease (CKD) is one of the critical problems being faced by many people all over the world. Another name for CKD is Chronic Kidney Failure (CKF). Whenever the functionality of kidney stopped working then in that case CKF will occur. Usually, kidneys functionality is to filter the waste materials as well as additional fluids from the blood. Later, these waste materials will be excreted from the urine. CKD results in dangerously high amounts of fluid, wastes as well as electrolytes in your body.

During the initial stages of CKD, one cannot predict that you are having kidney disease until it become severe. You may see some symptoms as well as signs during this initial stage. If kidney damage proceeds slowly, signs and symptoms of CKD may emerge over time. A loss of kidney function can result in an accumulation of fluid or bodily waste, as well as electrolyte imbalances. Depending on the severity, kidney function loss might result in sleeping related problems, vomiting sensation, over urination, cramps of muscles, nausea, itchy skin, hypertension, and pain in chest, cramps of muscles, etc.

Kalantar-Zadeh has made a comprehensive analysis on the preservation of kidney function. The authors described that non pharmacological techniques have the capability to reach higher preservation levels [1]. They stated that renal function can be retained for longer periods with the intervention of low-salt as well as low-protein diet. The authors concluded that whenever dialysis therapy is required kidney transplantation is not recommended. Petreski has made a detailed review on inflammation markers in CKD. The authors highlight the research on inflammatory indicators and their function in the growth and evolution of CKD [2]. It will largely focus on chemokines, cell adhesion molecules as well as cytokines. They concluded that advance studies are required to found the significance of inflammatory markers. Ilyas has made a research on CKD with the help of advanced Machine Learning (ML) algorithms. The authors employed J48 as well as random forest ML algorithms for the detection of stages involved with CKD. They concluded that J48 ML method showed better accuracy results for the detection of CKD in all stages when compared with the employed random forest algorithm [3]. They have also stated that their way of approach is helpful in detecting the severity of CKD. Nagasawa has made a detailed analysis on the relationship between CKD and cigarette smoking. The authors stated that in a certain stage of CKD, the effect may be high and in some stages it may be low. They have observed that the possible factor affecting CKD is through oxidative stress. Moreover, still many studies are being published day-by-day which becomes evident and proved that CKD has become a hot topic among researchers as well as practitioners of nephrology community [4].

Some of the risk factors involved in causing CKD are obesity, cardiovascular diseases, diabetes, genetic related kidney disorders, hypertension etc. CKD may occur whenever a disease damages the functionality of kidney. Some of the diseases that cause CKD are pyelonephritis, glomerulonephritis, vesicoureteral reflux, etc. CKD will result in effecting each and every part of the body. Some of the complications occur due to CKD includes anemia, retention of fluids, fertility reduction and even central nervous system, etc.

In order to avoid the complications of CKD, one needs to take preventive measures. Some of the measures are avoiding smoking of cigarette, taking healthy choices of food, performing physical exercises, limited consumption of alcohol, taking enough sleep, etc. Priority should be given to make positive advanced research on CKD complications and researchers as well as practitioners should be encouraged to explore those problems which are uncovered.

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