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Clinical Assessment of Drugs used in Nephrotic Syndrome

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Short Communication

Kidney plays a number of insubstantial tasks, particularly when it clears unwanted substances (toxins) from living body [1]. Apart from this it plays an important role in the maintenance of vital systems like endocrine, acid-base balance, blood pressure, erythropoiesis etc [2]. A real multi-tasking component inside our body becomes serious when the kidney functions decline which is extremely concerned with the inflammation and cell proliferation in the glomerulus, termed as glomerulonephritis [3].

Generally chronic kidney disease (CKD) patients are at elevated risk for cardiovascular events due to which hospitalization is required and leads towards mortality. Kidney transplantation is the favored treatment for end-stage renal disease. Kidney transplant recipients carry higher cardiovascular mortality risk than the general population as well as an increased risk of infections, malignancies, fractures, and obesity. In patient with CKD after transplantation, the estimated glomerular filtration rate significantly declines which leads to increased risk of mortality [4].

Most recent data from the Australian and New Zealand Dialysis and Transplant Registry (ANZDATA) shows that 2,610 people commence kidney replacement therapy (dialysis or kidney transplant) for CKD [5]. Projections forecast the number of people on dialysis and transplantation is expected to rise by 60% between 2011 and 2020 (19,780 patients in 2011 reached to 31,589 in 2020), although only Australian population increased by 13% during the year of 2014 [6]. The number of people whose end stage renal disease caused by diabetes is projected to become double in the year between 2011 and 2020 [7]. In 2014, a total of 22,218 people died due to kidney-related diseases. This equates to 60 people dying with kidney-related diseases every day or one person dying every 25 minutes due to CKD [8].

Population based on longitudinal study in North Indian Hospitals for risk factor of cardiac variations in patients with CKD due to prescription of anti-nephrotic drugs were observed in 80 patients (age > 40 years) suffering from kidney, heart and other diseases [9]. This clinical survey has been conducted from Indraprastha Apollo Hospitals, Apollo hospital Delhi, GSG Hospital, R.K. Pathology Clinic (New Delhi). It was accounted that in concurrent medication system, the allopathic medicine generally produces side-effect, unwanted drug-interaction when simultaneously administered in human body. The goal of this study was considered for safer prescription in patients with CKD to minimize the cardiovascular complication [10].

Throughout the survey, it was observed that the patient suffering from kidney diseases received numerous drugs within a single dose, while the treatment goal is to receive prescribed medicines b.i.d. or t.d.s. in each day. On the other hand, kidney has diminished their routine function due to which the condition becomes critical. The prescribed medicine in multiple doses has induced the work load on affected kidney (CKD), which significantly declines the vital function and reduces glomerular filtration rate day by bay. At last but not the least it develops the end stage renal disease, and the patients were suggested for dialysis/kidney transplantation [11]. The goals for the treatment differ as per the patient's condition and abnormal laboratory parameters. Some patients required the immediate treatment to manage heart disorders while some patients were needed to manage kidney function for the normal filtrations of blood to support the heart for the normal functions.

Vitamin D deficiency/insufficiency could be a common condition for the general population and special populations such as CKD patients. Apart from that, it effects on bone and mineral metabolism, low serum levels of 25-hydroxy vitamin D associated with several causes related to cardiovascular mortality and increased risk of comorbidities such as cardiovascular disease, infections, and kidney dysfunction in general and CKD populations [12].

It was observed that the vitamin D supplementation reduces future CVD events, the speed of progression of nephropathy and mortality risk in individuals with CKD. A lot of accurately precised

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therapeutic agents, doses, timing, monitoring parameters and vitamin D therapy is required [13].

This study evaluates the effect of anti-nephrotic drugs in CKD patients and its alteration in cardiac function with concomitant medicines which were used for the treatment of nephrotic disorder has been found to interfere with other vital organ dysfunction. This study also helps in prescription for future drugs to preserve the vital organ's function which was influenced by the nephrotic drugs and managing the cardiac risk factors associated with anti-nephrotic drugs.

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