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## **The Role of Sacubitril/Valsartan on Renal Function Among Heart Failure Patient with Concurrent Renal Impairment : A Literature Review**

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**Objectives:** Since renal dysfunction is a common comorbidity in patients with Heart Failure, We aimed to explain more and summarized the role of novel Sacubitril/Valsartan on renal function among the heart failure patients with concurrent renal impairment.

**Methods:** This literature review used PubMed database as the main tool to find studies involving the used of Sacubitril/Valsartan among heart failure patients with concurrent renal impairment focused on renal function. In addition, the references of those studies were investigated for further relevant information.

**Results:** Sacubitril/Valsartan will be absorbed quickly after oral administration. Almost all sacubitril will be changed in its active form (sacubitrilate) which is then excreted mainly in the urine while valsartan will be excreted mainly through feces. In a study conducted in heart failure patients with reduced ejection fraction co-existing with CKD who received Sac/Val therapy showed a significant improvement in eGFR. Other studies state that the safety of this drug combination can be maintained even in patients with CKD. This maintained kidney function is believed to be a direct effect due to the inhibition of neprilysin and angiotensin II by a combination of these drugs. This inhibition has a renoprotective effect on the kidneys through antioxidant, anti-inflammatory, and antifibrotic effects. In addition, the inhibition of angiotensin II which causes inhibits in the efferent arteriolar vasoconstriction process as compensation to the renal hypoperfusion in heart failure patient is offset by the vasodilation effect of natriuretic peptides system that making intraglomerular pressure can be maintained, so does the GFR.

**Conclusions:** Sacubitril/Valsartan treatment in HF patients with concurrent renal impairment has so far shown a good results by preserving kidney function. Besides, this drug is well tolerated even with CKD comorbidities.