

Renin Urin sebagai Senyawa Penanda Potensial Penyakit Ginjal Diabetes pada Pasien Diabetes Melitus: Systematic Review = Urinary Renin as Potential Marker of Diabetic Kidney Disease in Diabetes Mellitus Patients: Systematic Review

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Abstrak

ABSTRAK

Penyakit ginjal diabetes merupakan salah satu penyebab utama gagal ginjal stadium akhir, sehingga dibutuhkan penanda biologis yang spesifik dan sensitif untuk mengantisipasi progresi penyakit. Sistem renin-angiotensin aldosteron diketahui memiliki peran yang signifikan dalam perkembangan awal penyakit ginjal diabetes, sehingga renin sebagai salah satu komponen sistem renin-angiotensin aldosteron memiliki potensi sebagai penanda awal penyakit ginjal diabetes. Penulisan review article ini bertujuan untuk mengkaji literatur-literatur terkini yang meneliti hubungan kadar renin pada urin dengan perkembangan kerusakan ginjal. Review bersifat sistematis berdasarkan acuan Preferred Reporting Items for Systematic Reviews and Meta-Analyses Guidelines (PRISMA) tahun 2009 dengan pendekatan kualitatif. Literatur yang dikaji diperoleh melalui pencarian internet pada database ScienceDirect, PubMed, dan SpringerLink. Sebanyak 5 literatur dipilih berdasarkan kriteria yang ditetapkan. Hasil analisis literatur menunjukkan bahwa potensi renin urin sebagai penanda biologis penyakit ginjal diabetes cukup besar dikarenakan renin urin akan meningkat pada kondisi kerusakan ginjal. Selain itu, renin urin juga dapat menggambarkan aktivitas sistem renin-angiotensin aldosteron intrarenal dan memiliki korelasi positif dengan albuminuria. Hasil analisis literatur juga menunjukkan bahwa tidak adanya korelasi antara eLFG dan renin urin pada pasien dengan penyakit ginjal diabetes. Namun, renin urin secara signifikan lebih tinggi pada pasien dengan penyakit ginjal diabetik dibandingkan dengan pasien dengan penyakit ginjal kronis.

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<i>ABSTRACT</i>

Diabetic kidney disease is one of the main causes of end-stage renal disease, therefore there is a need for specific and sensitive biological markers to anticipate progression of the disease. The renin-angiotensin aldosterone is known to have a significant role in the early development of diabetic kidney disease, that means renin as one of the components of the renin-angiotensin aldosterone system has a potential as an early biomarker for diabetic kidney disease. This review article aims to review latest literatures that studied the relationship of renin levels in urine with the development of kidney damage in patients with diabetes or chronic kidney disease. This systematic review was written based on the Reference Reporting Item Options for Systematic Review and Meta-Analysis Guide (PRISMA) of 2009 with a qualitative approach. The literature studied was obtained through an internet search in the ScienceDirect, PubMed, and SpringerLink databases. A total of 5 literatures were chosen based on specified criteria. The results of the literature analysis showed that urinary renin has a promising potential as a biological marker for diabetic kidney disease because urinary renin will likely increase in presence kidney damage. In addition, urinary renin can also describe the activity of the intrarenal renin-angiotensin aldosterone system and positively corelates with

albuminuria. The results of the literature analysis also showed no correlations between eGFR and urinary renin in patients with diabetic kidney disease. However, urinary renin were significantly high in patients with diabetic kidney disease compared to patients with chronic kidney disease.</i>