

## #1947 - Is there correlation between subclinical hypothyroidism and diabetic nephropathy?

Authors and Affiliations Shokoufeh Bonakdaran<sup>1</sup>, Bahareh Zooashkiani<sup>2</sup>  
1 Associate professor of endocrinology, Endocrine research center, Mashhad University of medical sciences, Mashhad, IRAN  
2 MD, Endocrine research center, Mashhad University of medical sciences, Mashhad, IRAN

Corresponding Author and email shokoufeh bonakdaran, bonakdaransh@mums.ac.ir

**Body**

**Background:** Diabetic patients have higher prevalence of subclinical hypothyroidism which may be associated with diabetic complications. The aim of this study was to investigate the association of subclinical hypothyroidism with diabetic nephropathy (DN) in type 2 diabetic patients.

**Patients and Methods:** A total of 150 type 2 diabetic patients were selected. Fasting blood sugar, HbA1C, lipid profile, creatinine, free T4, TSH and urinary albumin to creatinine ratio (UACR) were assessed for all patients. Patients with UACR of  $\geq 30$  mg/gr or glomerular filtration rate (GFR)  $4 \text{ mL} / 1.73 \text{ m}^2 / 1.73 \text{ m}^2 / 1.73 \text{ m}^2$  and free thyroxine (FT4) level in normal range.

**Results:** In our study 7.3% of all patients had subclinical hypothyroidism. No significant difference was found between patients with and without DN in TSH level. There was no significant difference in GFR and rate of albuminuria between subclinical hypothyroid and euthyroid patients. TSH was not correlated with albuminuria and GFR.

### References

1. Harati H, Hadaegh F, Saadat N, Azizi F. Population-based incidence of Type 2 diabetes and its associated risk factors: results from a six-year cohort study in Iran. BMC public health. 2009;9(1):186. doi: 10.1186/1471-2458-9-186
2. Remuzzi G, Schieppati A, Ruggenenti P. Nephropathy in

## #1947 - Is there correlation between subclinical hypothyroidism and diabetic nephropathy?

- Patients with Type 2 Diabetes. *N Engl J Med*. 2002;346(15):1145-51. DOI:[10.1056/NEJMcp011773](https://doi.org/10.1056/NEJMcp011773)
3. Al-Geffari M, Ahmad NA, Al-Sharqawi AH, Youssef AM, AlNaqeb D, Al-Rubeaan K. Risk factors for thyroid dysfunction among type 2 diabetic patients in a highly diabetes mellitus prevalent society. *International journal of endocrinology*. 2013;2013:417920. doi: [10.1155/2013/417920](https://doi.org/10.1155/2013/417920)
  4. Niknam N, Khalili N, Khosravi E, Nourbakhsh M. Endothelial dysfunction in patients with subclinical hypothyroidism and the effects of treatment with levothyroxine. *Advanced biomedical research*. 2016;5:38. doi: [10.4103/2277-9175.178783](https://doi.org/10.4103/2277-9175.178783)
  5. Chubb S, Davis W, Inman Z, Davis T. Prevalence and progression of subclinical hypothyroidism in women with type 2 diabetes: the Fremantle Diabetes Study. *Clinical endocrinology*. 2005;62(4):480-6. DOI: [10.1111/j.1365-2265.2005.02246.x](https://doi.org/10.1111/j.1365-2265.2005.02246.x)
  6. Hollowell JG, Staehling NW, Flanders WD, et al. Serum TSH, T4, and thyroid antibodies in the United States population (1988 to 1994): National Health and Nutrition Examination Survey (NHANES III). *The Journal of Clinical Endocrinology & Metabolism*. 2002;87(2):489-99. DOI: [10.1210/jcem.87.2.8182](https://doi.org/10.1210/jcem.87.2.8182)
  
  7. Chen HS, Wu TE, Jap TS, et al. Subclinical hypothyroidism is a risk factor for nephropathy and cardiovascular diseases in Type 2 diabetic patients. *Diabetic medicine*. 2007;24(12):1336-44. DOI:[10.1111/j.1464-5491.2007.02270.x](https://doi.org/10.1111/j.1464-5491.2007.02270.x)
  8. Furukawa S, Yamamoto S, Todo Y, et al. Association between subclinical hypothyroidism and diabetic nephropathy in patients with type 2 diabetes mellitus. *Endocrine journal*. 2014;61(10):1011-8.
  9. Mansournia N, Riyahi S, Tofangchiha S, et al. Subclinical hypothyroidism and diabetic nephropathy in Iranian patients with type 2 diabetes. *Journal of Endocrinological Investigation*. 2016:1-7. DOI:[10.1007/s40618-016-0560-3](https://doi.org/10.1007/s40618-016-0560-3)
  10. Den Hollander JG, Wulkan RW, Mantel MJ, Berghout A. Correlation between severity of thyroid dysfunction and

## #1947 - Is there correlation between subclinical hypothyroidism and diabetic nephropathy?

renal function. *Clinical endocrinology*. 2005;62(4):423-7.

DOI:[10.1111/j.1365-2265.2005.02236.x](https://doi.org/10.1111/j.1365-2265.2005.02236.x)

11. Iglesias P, Diez J. Thyroid dysfunction and kidney disease. *European journal of endocrinology*. 2009;160(4):503-15. DOI: [10.1007/s11154-016-9395-7](https://doi.org/10.1007/s11154-016-9395-7)
12. Sarati LI, Martinez CR, Artés N, et al. Hypothyroidism: age-related influence on cardiovascular nitric oxide system in rats. *Metabolism*. 2012;61(9):1301-11. doi: [10.1016/j.metabol.2012.01.022](https://doi.org/10.1016/j.metabol.2012.01.022).
13. Lo JC, Chertow GM, Go AS, Hsu C-Y. Increased prevalence of subclinical and clinical hypothyroidism in persons with chronic kidney disease. *Kidney international*. 2005;67(3):1047-52. DOI: [10.1111/j.1523-1755.2005.00169.x](https://doi.org/10.1111/j.1523-1755.2005.00169.x)
14. Yasuda T, Kaneto H, Kuroda A, et al. Subclinical hypothyroidism is independently associated with albuminuria in people with type 2 diabetes. *Diabetes research and clinical practice*. 2011;94(3):e75-e7. DOI:[10.1016/j.diabres.2011.08.019](https://doi.org/10.1016/j.diabres.2011.08.019)
15. El-Eshmawy MM, Abd El-Hafez HA, El Shabrawy WO, Abdel Aal IA. Subclinical hypothyroidism is independently associated with microalbuminuria in a cohort of prediabetic egyptian adults. *Diabetes & metabolism journal*. 2013;37(6):450-7. doi: [10.4093/dmj.2013.37.6.450](https://doi.org/10.4093/dmj.2013.37.6.450)
16. Suher M, Koc E, Ata N, Ensari C. Relation of thyroid dysfunction, thyroid autoantibodies, and renal function. *Renal failure*. 2005;27(6):739-42.
17. Zakerkish M, Shahbazian HB, Shahbazian H, Latifi SM, Aleali AM. Albuminuria and its correlates in type 2 diabetic patients. *Iranian journal of kidney diseases*. 2013;7(4):268-76.
18. Mojahedi MJ, Bonakdaran S, Hami M, Sheikhan MR, Shakeri MT, Aiatollahi H. Elevated serum C-reactive protein level and microalbuminuria in patients with type 2 diabetes mellitus. *Iran J Kidney Dis*. 2009;3(1):12-6.

**#1947 - Is there correlation between subclinical hypothyroidism and diabetic nephropathy?**

Generate date 03 November 2018 14:51