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"Reducing Kidney Damage in Diabetic Patients: The Role of Homoeopathy in Microalbuminuria"

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Abstract

Background & Objectives –

Urinary albumin excretion of 30-300 µg/24 hours is known as microalbuminuria, and it is a sign of vascular disease and glomerular damage, especially in diabetes mellitus. It greatly raises the risk of diabetic nephropathy, a major contributor to end-stage renal disease (ESRD), and is seen in 30–40% of people with type 2 diabetes mellitus. In order to decrease albumin excretion and halt the course of nephropathy, conventional care involves the use of ACE inhibitors and ARBs; however, these medications frequently result in adverse effects such as hypotension and hyperkalaemia. Homeopathy offers a personalized, holistic approach that has demonstrated potential in restoring renal function and lowering albuminuria without harmful consequences.

Methods –

A thorough review of the literature was carried out using databases like Google Scholar, Cochrane, PubMed, and homeopathic journals. Search terms included "microalbuminuria," "diabetes mellitus," "homoeopathy," and "diabetic nephropathy." Articles pertaining to observational studies, case reports, randomized controlled trials, and cross-sectional studies were examined. Allopathic and homeopathic interventions were compared using data on prevalence, etiology, and treatment modalities. Excluded studies were those with unclear conclusions or no connection to the study's goal.

Interpretation & Conclusion –

Although allopathic remedies successfully lower albuminuria, they are constrained by systemic adverse effects and complications, especially when used for an extended period of time. Numerous case studies and randomized controlled trials show encouraging results, especially when homeopathic treatments are combined with lifestyle changes. While allopathy offers immediate relief, homeopathy provides a patient-focused, side-effect-free approach, supporting sustainable management of microalbuminuria in diabetes mellitus.

Key words: microalbuminuria, diabetes mellitus, homoeopathy, diabetes management, homoeopathy and diabetes, diabetic nephropathy.

1. Introduction

Microalbuminuria is the term used to describe an increase in urine albumin excretion below the threshold of clinical proteinuria. Urinary albumin excretion rates (AER) of 30-300 microgram/24 hours are considered microalbuminuria according to international criteria(1). The first clinical symptom of vascular damage in the glomerulus, which is indicative of vascular disease throughout the body, is microalbuminuria in type 2 diabetics.(2)

Microalbuminuria, an indication of glomerular injury, is far more likely to occur in people with diabetes mellitus, a metabolic disease marked by hyperglycemia. It occurs in 30-40% of patients with type 2 diabetes mellitus(3) and was present in 13.9 and 14.4% of patients with fasting blood sugar levels below and over 140 mg/dL, respectively.(4)

Forty percent of people with type 1 and type 2 diabetes have diabetic nephropathy, which is the primary cause of kidney damage among patients beginning renal replacement treatment. The phases of diabetic nephropathy are as follows:

macroalbuminuria (UAE 200 µg/min) and microalbuminuria (UAE 20 µg/min and 199 µg/min). Hyperglycemia, increased blood pressure levels, and genetic predisposition are the main risk factors for the development of diabetic nephropathy. Elevated serum lipids, smoking habits, and the amount and origin of dietary protein also seem to play a role as risk factors.(5)

ACE inhibitors and ARBs are conventionally used as primary intervention to control microalbuminuria which is effective in reducing albumin excretion, slowing nephropathy progression, and offering cardiovascular protection. Early detection, treatment with RAS inhibitors and lifestyle modifications are also vital to managing microalbuminuria.(6) It can develop into end-stage renal disease (ESRD) if treatment is not received. Although hyperkalemia and hypotension are frequent side effects, conventional treatments aim to manage blood pressure and blood sugar levels. Homeopathy provides a comprehensive, patient-focused method that prioritizes symptom similarities and customized care. Acid phosphoricum is one of the remedies which can be used in treating microalbuminuria as suggested by different pioneers of homoeopathy.

J.H. CLARKE- The polyuria and dry mouth and throat give leading correspondences for phos. ac. in diabetes. White milky urine is also very characteristic of phosphoric acid.

William Boerricke- Urine- Frequent, profuse, watery, milky. Diabetes.

S.R. Phatak- urine; frequent, profuse, watery, milky. Diabetes. Phosphaturia

2. Methodology

With an emphasis on homeopathic and allopathic methods, this article examines research and clinical trials on the treatment of microalbuminuria. To find clinical research articles, a comprehensive computerized literature search was carried out. Relevant articles from PubMed, Cochrane, Google Scholar, Research Gate, Medline, Science Direct, and a few homeopathic journals were searched.

Cross-sectional research, randomized trials, clinical and observational studies, retrospective cohort study, and case reports examining the etiology, prevalence, and different treatment approaches of microalbuminuria are among the data sources which are included in the review. Comparative evaluations of single medicines, combinations of different formulas draw attention to the advantages and drawbacks of any therapeutic approach. Furthermore, articles and opinion pieces without a clear conclusion were eliminated, as were any papers that did not relate to our research.

3. Discussion

In diabetics, the presence of microalbumin in the urine signals the start of renal disease. Albumin may be a sign of early glomerular blood vessel injury, but it may also be a sign of renal autoregulation failure in diabetics.(2)

An early indicator of renal impairment in diabetes is microalbuminuria, which is defined as urine albumin excretion of 30–300 mg/day. It displays glomerular endothelial dysfunction, intraglomerular hypertension and hemodynamic maladjustment, podocyte damage, and oxidative stress as its pathology(7). It is appropriate to use the progression of normoalbuminuria, microalbuminuria, and macroalbuminuria to identify the stage of nephropathy. It can take up to ten years for AER to advance through the microalbuminuria stage, but it can happen sooner.(1) On the one hand, the albuminuria might be a sign of high glomerular capillary pressures, which over time might cause the filtering system to experience mechanical strain and injury. However, there is experimental evidence that the uptake of filtered proteins by renal epithelial cells may result in an aberrant protein accumulation in the Endo lysosomes and endoplasmic reticulum, which may trigger nuclear signals for inflammatory and vasoactive genes. (2)

In one of the studies, it was found that over the course of an average follow-up of 22 months, the GFR of patients with microalbuminuria decreased more than that of individuals with normoalbuminuria. Consequently, in order to avoid further renal complications, albuminuria should be evaluated in all individuals with type 2 diabetes and suppressed. (8)

Treatment with Allopathic Medicine

Tight glycemic control and the use of angiotensin-converting enzymes, ACE inhibitors or ARBs are part of allopathic therapy. These medications halt the evolution of nephropathy and lower albuminuria. Antihypertensive medications that alter the renin-angiotensin-aldosterone pathway have been the subject of research. The glomerulus is affected by angiotensin-converting enzymes. Angiotensin II receptor blockers (ARBs) and ACE inhibitors have been researched as treatments for diabetic nephropathy at different stages. The development of microalbuminuria and subsequently clinical albuminuria may be postponed by ACE inhibitors. The ARBs decrease albuminuria in patients with micro albuminuria and decrease adverse renal events, specifically the progression to end-stage renal disease in patients with clinical albuminuria and hypertension.(9) (10)Limited data suggest that combination therapy with ACE inhibitors and ARBs may slow the progression of microalbuminuria to clinical albuminuria. One of the studies focused on treatment with ACE inhibitors alone compared with ACE inhibitors and cilnidipine(11) and another study compared ARB along with Direct Renin Inhibitor (DRI).(12) Both these studies showed that combination therapy have better results than using ACE inhibitors or ARBs singly. One more study which supports this idea of using combination therapy was using mineralocorticoids receptors antagonists along with ACE/ ARBs.(13)

However, their long-term usage of DRI along with ACE inhibitors was associated with less favourable outcomes(14) and is limited by adverse effects which include hypotension, hyperkalemia, and renal impairment.

Some Homeopathic studies to treat diabetes mellitus and microalbuminuria

The foundation of a good homoeopathic practice is individualization. The fundamental principle of science has been that all of humanity is sick, not just any one of his components. When the adaptation process gradually fails, an individual becomes vulnerable to the harmful effects of environmental forces.(15)

Homeopathy treats microalbuminuria by bringing the vital energy back into equilibrium. Several randomised control trials, case studies, case reports have been published showing promising results in the management of microalbuminuria and diabetes by Homoeopathic medicines. A case series was reviewed which used individualised homoeopathic medicines for treating diabetes and co morbidities, in which medicines like Acid phos., Apis mel., and Lycopodium in 30 or 200 potencies showed good results.(16)

A randomised control trial with 90 patients focused on comparing constitutional and organ remedies along with placebo in which constitutional group gave the most promising results followed by organ group and then placebo group.(15)

Another study was carried on with 30 patients who were diabetic and were given medicine according to the symptom similarity and repertorisation. In this study, kali carb, puls., lycopodium and acid phos were found to be used most frequently and helped managing diabetes.(17)

There was another study which focused on all the symptoms related to proteinuria and selected five remedies to be used, i.e., arsenic alb., terebinthia, cantharis, merc cor., and phosphorus and then based on the symptom similarity they were prescribed. The study concluded that in addition to treating the symptoms, homoeopathy aims to eliminate the alterations that are producing the illness. Improvements in diet and lifestyle are necessary in addition to medicine.(18)

A case study was reviewed which was a case of microalbuminuria and according to the totality of symptoms calcarea carb as constitutional medicine and cantharis as therapeutic remedy was prescribed and the patient was much better. It also showed that low potencies have better results in this type of conditions.(19)

A RCT was carried out to compare which potency among LM and Centesimal of Acid Phosphoricum was better to manage type 2 diabetes mellitus.(20)

Therefore, the customized, side-effect-free method of homeopathy with different approaches of treatment therapy has the potential to lower urine albumin levels, manage diabetes and enhance renal function.

Analysis by Comparison- Allopathy reduces albuminuria right away, however there are frequently systemic concerns associated with its effects. ARBs rarely cause adverse effects and are usually well tolerated. Because ARBs do not raise bradykinin levels, they are less likely to produce angioedema and cough than ACEIs, while there are isolated reports of these side effects in ARB users. In individuals whose arterial blood pressure or renal function is heavily reliant on the RAAS, ARBs may result in hypotension and/or renal failure. And despite being successful in lowering proteinuria, mineralocorticoid receptor antagonists raise the risk of hyperkalemia. Pregnancy-related ACE and ARB use decreases fetal kidney

perfusion and is associated with fetal oliguric or anuric renal failure, oligohydramnios, skeletal or cranial abnormalities, pulmonary hypoplasia, renal dysgenesis, and fetal death Conversely, homeopathy provides a more progressive healing with improved patient tolerance.(21) Research indicates that patients receiving homeopathic treatment see notable decreases in albumin levels and symptom relief, particularly when paired with lifestyle changes.

4. Conclusion

Diabetes-related microalbuminuria therapy requires for a multimodal strategy. Although allopathy provides rapid symptom relief, its adverse consequences make alternative treatments necessary. Homeopathy exhibits promise as a stand-alone or supplemental treatment for early nephropathy due to its individualized, side-effect-free methodology. Further research is needed to standardize homeopathic practices and assess their long-term efficacy.

Microalbuminuria is an early marker of renal impairment in diabetics, needing immediate care to prevent development to diabetic nephropathy and ESRD. ACE inhibitors and ARBs are examples of allopathic medications that efficiently lower albuminuria, but they can also have negative side effects such hypotension and hyperkalemia.

A customized, side-effect-free approach is provided by homeopathy, with treatments like Acid Phosphoricum and Lycopodium demonstrating encouraging outcomes in lowering albuminuria and enhancing general health. Because lifestyle changes combined with customized treatment can improve results, homeopathy can be a useful adjunct to traditional medicines.

References-

1. Mangili R. Microalbuminuria in diabetes. Clin Chem Lab Med [Internet]. 1998 [cited 2024 Dec 2];36(12):941–6. Available from: https://pubmed.ncbi.nlm.nih.gov/9915227/
2. Weir MR. Microalbuminuria in Type 2 Diabetics: An Important, Overlooked Cardiovascular Risk Factor. The Journal of Clinical Hypertension [Internet]. 2007 [cited 2024 Dec 28];6(3):134. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8109345/
3. Khan TM, Nawaz FK, Karim MS, Shafique Z, Anwar MS, Usman O. Incidence of Microalbuminuria and Factors Affecting It in Patients With Type 2 Diabetes Mellitus. Cureus [Internet]. 2022 Jul 26 [cited 2024 Dec 14];14(7):e27294. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC9403210/
4. Afkhami-Ardekani M, Modarresi M, Amirchaghmaghi E. Prevalence of microalbuminuria and its risk factors in type 2 diabetic patients. Indian J Nephrol [Internet]. 2008 [cited 2024 Dec 14];18(3):112. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC2813138/
5. Gross JL, De Azevedo MJ, Silveiro SP, Canani LH, Caramori ML, Zelmanovitz T. Diabetic nephropathy: Diagnosis, prevention, and treatment. Diabetes Care. 2005 Jan;28(1):164–76.
6. Jerums G, MacIsaac RJ. Treatment of microalbuminuria in patients with type 2 diabetes mellitus. Treat Endocrinol [Internet]. 2002 [cited 2024 Dec 14];1(3):163–73. Available from: https://pubmed.ncbi.nlm.nih.gov/15799209/
7. Futrakul N, Sridama V, Futrakul P. Microalbuminuria—A Biomarker of Renal Microvascular Disease. Ren Fail [Internet]. 2009 Feb [cited 2025 Jan 22];31(2):140–3. Available from: https://www.tandfonline.com/doi/abs/10.1080/08860220802595948

8. Basi S, Fesler P, Mimran A, Lewis JB. Microalbuminuria in Type 2 Diabetes and HypertensionA marker, treatment target, or innocent bystander? Diabetes Care [Internet]. 2008 Feb 1 [cited 2024 Dec 14];31(Supplement_2):S194–201. Available from: https://dx.doi.org/10.2337/dc08-s249
9. Hughes DB, Britton ML. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers for prevention and treatment of nephropathy associated with type 2 diabetes mellitus. Pharmacotherapy [Internet]. 2005 Nov [cited 2024 Dec 14];25(11):1602–20. Available from: https://pubmed.ncbi.nlm.nih.gov/16232022/
10. Mogensen CE. ACE inhibitors and antihypertensive treatment in diabetes: Focus on microalbuminuria and macrovascular disease. JRAAS - Journal of the Renin-Angiotensin-Aldosterone System. 2000;1(3):234–9.
11. Singh VK, Mishra A, Gupta KK, Misra R, Patel ML, Shilpa S. Reduction of microalbuminuria in type-2 diabetes mellitus with angiotensin-converting enzyme inhibitor alone and with cilnidipine. Indian J Nephrol [Internet]. 2015 Nov 1 [cited 2024 Dec 28];25(6):334. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC4663769/
12. Uzu T, Araki SI, Kashiwagi A, Haneda M, Koya D, Yokoyama H, et al. Comparative Effects of Direct Renin Inhibitor and Angiotensin Receptor Blocker on Albuminuria in Hypertensive Patients with Type 2 Diabetes. A Randomized Controlled Trial. PLoS One [Internet]. 2016 Dec 1 [cited 2024 Dec 14];11(12). Available from: https://pubmed.ncbi.nlm.nih.gov/28033332/
13. Sun LJ, Sun YN, Shan JP, Jiang GR. Effects of mineralocorticoid receptor antagonists on the progression of diabetic nephropathy. J Diabetes Investig [Internet]. 2017 Jul 1 [cited 2024 Dec 14];8(4):609. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC5497036/
14. LIE DNW. POS-203 LONG-TERM OUTCOMES OF ADD-ON DIRECT RENIN INHIBITION IN IMMUNOGLOBULIN A NEPHROPATHY: A RETROSPECTIVE, PROPENSITY SCORE-MATCHED COHORT STUDY. Kidney Int Rep. 2022 Feb 1;7(2):S87.
15. Tiwari N, Tamboli P. Diabetes mellitus – Defining scope and clinical approach for homoeopathic management. Indian Journal of Research in Homoeopathy [Internet]. 2008 Sep 1 [cited 2025 Jan 22];2(3):28–36. Available from: https://www.ijrh.org/journal/vol2/iss3/7
16. GK DrAA, P DrN. Use of homeopathic medicines in the treatment of albuminuria in patients with chronic kidney disease: A case series. International Journal of Homoeopathic Sciences [Internet]. 2023 Apr 1 [cited 2024 Dec 14];7(2):246–9. Available from: https://www.homoeopathicjournal.com/archives/2023/vol7issue2/D/7-2-44
17. (PDF) EFFICACY OF HOMOEOPATHIC REMEDIES IN MANAGEMENT OF TYPE 2 DIABETES MELLITUS: A CLINICAL STUDY [Internet]. [cited 2024 Dec 14]. Available from: https://www.researchgate.net/publication/341342863_EFFICACY_OF_HOMOEOPATHIC_REMEDIES_IN_MANAGEMENT_OF_TYPE_2_DIABETES_MELLITUS_A_CLINICAL_STUDY
18. (PDF) MANAGEMENT OF PROTEINURIA IN HOMEOPATHY [Internet]. [cited 2024 Dec 14]. Available from: https://www.researchgate.net/publication/350236334_MANAGEMENT_OF_PROTEINURIA_IN_HOMEOPATHY
19. (PDF) Microalbuminuria Under Homoeopathic Care A Detailed Case Study [Internet]. [cited 2025 Jan 2]. Available from: https://www.researchgate.net/publication/380897386_Microalbuminuria_Under_Homoeopathic_Care_A_Detailed_Case_Study

20. Aphale P, Sharma D. To Study and Compare the Efficacy of LM Potency and Centesimal Potency of Homoeopathic Medicine Acid Phosphoricum in Management of Type-2 Diabetes Mellitus. Res J Pharm Technol. 2023 Apr 1;16(4):1689–94.
21. Hill RD, Vaidya PN. Angiotensin II Receptor Blockers (ARB). StatPearls [Internet] [Internet]. 2023 Mar 27 [cited 2024 Dec 14]; Available from: https://www.ncbi.nlm.nih.gov/books/NBK537027/