**Additional file 5. Summary of 57 disqualified papers by evaluating full texts.**

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| **NO.** | **Reference** |
| **Patients without CHD at baseline (23 papers)** | |
| 1 | 42. Kim RB, Morse BL, Djurdjev O, Tang M, Muirhead N, Barrett B, et al. Advanced chronic kidney disease populations have elevated trimethylamine N-oxide levels associated with increased cardiovascular events. Kidney Int. 2016;89:1144-52. |
| 2 | 43. Trøseid M, Hov JR, Nestvold TK, Thoresen H, Berge RK, Svardal A, et al. Major increase in microbiota-dependent proatherogenic metabolite TMAO one year after bariatric surgery. Metab Syndr Relat Disord. 2016;14:197-201. |
| 3 | 44. Miller PE, Haberlen SA, Brown TT, Margolick JB, DiDonato JA, Hazen SL, et al. Brief report: intestinal microbiota-produced trimethylamine-N-oxide and its association with coronary stenosis and HIV serostatus. J Acquir Immune Defic Syndr. 2016;72:114-8. |
| 4 | 45. Haissman JM, Knudsen A, Hoel H, Kjær A, Kristoffersen US, Berge RK, et al. Microbiota-dependent marker TMAO is elevated in silent ischemia but is not associated with first-time myocardial infarction in HIV infection. J Acquir Immune Defic Syndr. 2016;71:130-6. |
| 5 | 46. Stubbs JR, House JA, Ocque AJ, Zhang S, Johnson C, Kimber C, et al. Serum trimethylamine-N-oxide is elevated in CKD and correlates with coronary atherosclerosis burden. J Am Soc Nephrol. 2016;27:305-13. |
| 6 | 47. Kaysen GA, Johansen KL, Chertow GM, Dalrymple LS, Kornak J, Grimes B, et al. Associations of trimethylamine N-oxide with nutritional and inflammatory biomarkers and cardiovascular outcomes in patients new to dialysis. J Ren Nutr. 2015;25:351-6. |
| 7 | 48. Fukami K, Yamagishi S, Sakai K, Kaida Y, Yokoro M, Ueda S, et al. Oral L-carnitine supplementation increases trimethylamine-N-oxide but reduces markers of vascular injury in hemodialysis patients. J Cardiovasc Pharmacol. 2015;65:289-95. |
| 8 | 49. Tang WH, Wang Z, Shrestha K, Borowski AG, Wu Y, Troughton RW, et al. Intestinal microbiota-dependent phosphatidylcholine metabolites, diastolic dysfunction, and adverse clinical outcomes in chronic systolic heart failure. J Card Fail. 2015;21:91-6. |
| 9 | 50. Tang WH, Wang Z, Fan Y, Levison B, Hazen JE, Donahue LM, et al. Prognostic value of elevated levels of intestinal microbe-generated metabolite trimethylamine-N-oxide in patients with heart failure: refining the gut hypothesis. J Am Coll Cardiol. 2014;64:1908-14. |
| 10 | 51. Lewis GD, Wei R, Liu E, Yang E, Shi X, Martinovic M, et al. Metabolite profiling of blood from individuals undergoing planned myocardial infarction reveals early markers of myocardial injury. J Clin Invest. 2008;118:3503-12. |
| 11 | 52. Knudsen A, Christensen TE, Thorsteinsson K, Ghotbi AA, Hasbak P, Lebech AM, et al. Microbiota-dependent marker TMAO is not associated with decreased myocardial perfusion in well-treated HIV-infected patients as assessed by 82rubidium PET/CT. J Acquir Immune Defic Syndr. 2016;72:e83-5. |
| 12 | 53. Suzuki T, Heaney LM, Bhandari SS, Jones DJ, Ng LL. Trimethylamine N-oxide and prognosis in acute heart failure. Heart. 2016;102:841-8. |
| 13 | 54. Dambrova M, Latkovskis G, Kuka J, Strele I, Konrade I, Grinberga S, et al. Diabetes is associated with higher trimethylamine N-oxide plasma levels. Exp Clin Endocrinol Diabetes. 2016;124:251-6. |
| 14 | 55. Meyer KA, Benton TZ, Bennett BJ, Jacobs DR Jr, Lloyd-Jones DM, Gross MD, et al. Microbiota-dependent metabolite trimethylamine N-oxide and coronary artery calcium in the coronary artery risk development in young adults study (CARDIA). J Am Heart Assoc. 2016;5:e003970. |
| 15 | 56. Senthong V, Wang Z, Fan Y, Wu Y, Hazen SL, Tang WH. Trimethylamine N-oxide and mortality risk in patients with peripheral artery disease. J Am Heart Assoc. 2016;5:e004237. |
| 16 | 57. Tang WH, Wang Z, Fan Y, Levison B, Hazen JE, Donahue LM, et al. Prognostic value of elevated levels of intestinal microbe-generated metabolite trimethylamine-N-oxide in patients with heart failure: refining the gut hypothesis. J Am Coll Cardiol. 2014;64:1908-14 |
| 17 | 58. Shafi T, Powe NR, Meyer TW, Hwang S, Hai X, Melamed ML, et al. Trimethylamine N-Oxide and cardiovascular events in hemodialysis patients. J Am Soc Nephrol. 2017;28:321-31. |
| 18 | 59. Hove-Skovsgaard M, Gaardbo JC, Kolte L, Winding K, Seljeflot I, Svardal A, et al. HIV-infected persons with type 2 diabetes show evidence of endothelial dysfunction and increased inflammation. BMC Infect Dis. 2017;17:234. |
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| 3 | 67. Kühn T, Rohrmann S, Sookthai D, Johnson T, Katzke V, Kaaks R, et al. Intra-individual variation of plasma trimethylamine-N-oxide (TMAO), betaine and choline over 1 year. Clin Chem Lab Med. 2017;55:261-8. |
| 4 | 68. Fu Q, Zhao M, Wang D, Hu H, Guo C, Chen W, et al. Coronary plaque characterization assessed by optical coherence tomography and plasma trimethylamine-N-oxide levels in patients with coronary artery disease. Am J Cardiol. 2016;118:1311-5. |
| 5 | 69. Mafune A, Iwamoto T, Tsutsumi Y, Nakashima A, Yamamoto I, Yokoyama K, et al. Associations among serum trimethylamine-N-oxide (TMAO) levels, kidney function and infarcted coronary artery number in patients undergoing cardiovascular surgery: a cross-sectional study. Clin Exp Nephrol. 2016;20:731-9. |
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| 18 | 82. Yuan X-Y, Pan M, Yang P, Chen C, Shi W-H, Yuan J-P, et al. Evaluation value of plasma trimethylamine oxide determination for ventricular remodeling and prognosis in patients with acute myocardial infarction. Shandong Medical Journal. 2019;59:10-13. |
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| 2 | 84. Dambrova M, Skapare-Makarova E, Konrade I, Pugovics O, Grinberga S, Tirzite D, et al. Meldonium decreases the diet-increased plasma levels of trimethylamine N-oxide, a metabolite associated with atherosclerosis. J Clin Pharmacol. 2013;53:1095-8. |
| 3 | 85. Randrianarisoa E, Lehn-Stefan A, Wang X, Hoene M, Peter A, Heinzmann SS, et al. Relationship of serum trimethylamine N-oxide (TMAO) levels with early atherosclerosis in humans. Sci Rep. 2016;6:26745. |
| **Meeting abstracts (5 papers)** | |
| 1 | 86. Velebova K, Hoang T, Veleba J, Belinova L, Kopecky J, Kuda O, et al. The effect of metformin on serum levels of trimethylamine-N-oxide in patients with type 2 diabetes/prediabetes and chronic heart failure. Diabetologia. 2016;59:S533. |
| 2 | 87. Senthong V, Wang Z, Wu Y, Tang WH, Hazen S. Elevated plasma trimethylamine-N-oxide is associated with poor prognosis in patients with peripheral artery disease. J Am Coll Cardiol. 2015;65:A2076. |
| 3 | 88. Zhu W, Wang Z, Org E, Gupta N, Silverstein RL, McIntyre TM, et al. Gut flora-depend metabolite, TMAO, promotes thrombosis. Cardiovasc Pathol. 2014;23:e26-7. |
| 4 | 89. Shrestha K, Wang Z, Borowski AG, Troughton RW, Klein AL, Hazen S, et al. Gut-flora-dependent phosphatidylcholine metabolites predict adverse clinical outcomes in chronic systolic heart failure. J Card Fail. 2011;17:S28. |
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| **Reviews (6 papers)** | |
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| 2 | 91. Martínez-Del Campo A, Romano KA, Rey FE, Balskus EP. The plot thickens: diet microbe interactions may modulate thrombosis risk. Cell Metab. 2016;23:573-5. |
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| 1 | 24. Wang Z, Klipfell E, Bennett BJ, Koeth R, Levison BS, Dugar B, et al. Gut flora metabolism of phosphatidylcholine promotes cardiovascular disease. Nature. 2011;472:57-63. |
| **A repetitive report from a partial dataset (1 papers)** | |
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