

Jacek Kubica 

Department of Cardiology and Internal Medicine, Collegium Medicum, Nicolaus Copernicus University, Bydgoszcz, Poland

# Therapeutic strategies targeting metabolic syndrome

Metabolic syndrome (MetS) is a cluster of modifiable cardiovascular risk factors including obesity, hypertension, impaired glucose metabolism, and elevated non-high-density lipoprotein cholesterol level [1]. Due to increasing prevalence and serious clinical implications, MetS constitutes a significant health and social problem. It is therefore not surprising that MetS is of interest to both scientists and clinicians. This fact is reflected in numerous clinical trials and scientific publications. A review of the PubMed database showed that the number of publications on MetS is growing rapidly, reaching over 106,000 publications this year. In the current issue of the Medical Research Journal, as many as four publications concern various treatment strategies for patients with obesity and metabolic syndrome [2–5]. The first one is the rationale and protocol of the DEMETER — SIRIO 11 study that is aimed at comparative evaluation of the effect of two doses of empagliflozin (10 mg vs. 20 mg) on reduction of BMI and HbA1c in patients with MetS. The study is designed as a phase III, multicenter, randomized, open-label, investigator-initiated clinical trial with a 6-month follow-up [2]. The second publication is a report of study results aimed to determine whether the volume of the resected part of the stomach correlates with postoperative results after 1-year follow-up. The authors concluded that laparoscopic sleeve gastrectomy is an efficient method of obesity treatment improving biochemical parameters reflecting glucose and lipid metabolism [3]. The third and fourth publications are letters to the editor discussing the medical treatment of patients with obesity [4, 5]. The scientific activity of clinicians covering issues related to obesity and metabolic syndrome treatment, expressed in numerous publications, reflects the wide

interest in this field. Abdominal obesity, with its clinical consequences expressed in metabolic syndrome, is a chronic serious disease that requires long-term treatment. The main limitation of the effectiveness of therapy, as in the case of any chronic disease, is the low level of adherence to therapeutic recommendations [6–10]. Therefore, all activities aimed at supporting cooperation with an obese patient are of key importance for therapy effectiveness [11–17].

## References

1. Dobrowolski P, Prejbisz A, Kuryłowicz A, et al. Metabolic syndrome — a new definition and management guidelines: A joint position paper by the Polish Society of Hypertension, Polish Society for the Treatment of Obesity, Polish Lipid Association, Polish Association for Study of Liver, Polish Society of Family Medicine, Polish Society of Lifestyle Medicine, Division of Prevention and Epidemiology Polish Cardiac Society, „Club 30” Polish Cardiac Society, and Division of Metabolic and Bariatric Surgery Society of Polish Surgeons. *Arch Med Sci.* 2022; 18(5): 1133–1156, doi: [10.5114/aoms/152921](https://doi.org/10.5114/aoms/152921), indexed in Pubmed: [36160355](https://pubmed.ncbi.nlm.nih.gov/36160355/).
2. Kubica J, Kubica A, Grąbczewska Z, et al. Efficacy of double vs. standard empagliflozin dose for METabolic syndromE tReatment (DEMETER — SIRIO 11) study. Rationale and protocol of the study. *Med Res J.* 2023; 8(3): 171–178, doi: [10.5603/mrj.97187](https://doi.org/10.5603/mrj.97187).
3. Pawluszewicz P, Golaszewski P, Gluszyńska P, et al. What does the volume of stomach resected during laparoscopic sleeve gastrectomy depend on and what impact does it have on postoperative results? *Med Res J.* 2023; 8(3): 208–215, doi: [10.5603/mrj.a2023.0033](https://doi.org/10.5603/mrj.a2023.0033).
4. Giordano U, Kobińska J, Pilch J. Semaglutide as a chance for obesity treatment. *Med Res J.* 2023; 8(3): 262–264, doi: [10.5603/mrj.a2023.0034](https://doi.org/10.5603/mrj.a2023.0034).
5. Umińska JM. Multiple new therapeutic options in the treatment of obesity. *Med Res J.* 2023; 8(3): 265–266, doi: [10.5603/mrj.97463](https://doi.org/10.5603/mrj.97463).
6. Kubica A, Obońska K, Fabiszak T, et al. Adherence to antiplatelet treatment with P2Y12 receptor inhibitors. Is there anything we can do to improve it? A systematic review of randomized trials. *Curr Med Res Opin.* 2016; 32(8): 1441–1451, doi: [10.1080/03007995.2016.118290](https://doi.org/10.1080/03007995.2016.118290), indexed in Pubmed: [27112628](https://pubmed.ncbi.nlm.nih.gov/27112628/).
7. Kubica A. Adherence to medication in elderly patients. *Med Res J.* 2023; 1(8): 93–94, doi: [10.5603/mrj.a2023.0015](https://doi.org/10.5603/mrj.a2023.0015).

### Corresponding author:

Jacek Kubica, Department of Cardiology and Internal Medicine, Collegium Medicum, Nicolaus Copernicus University, Bydgoszcz, Poland; e-mail: [jkubica@cm.umk.pl](mailto:jkubica@cm.umk.pl)  
*Medical Research Journal* 2023; Volume 8, Number 3, 169–170, DOI: [10.5603/mrj.97482](https://doi.org/10.5603/mrj.97482), Copyright © 2023 Via Medica, ISSN 2451-2591, e-ISSN 2451-4101

This article is available in open access under Creative Commons Attribution-Non-Commercial-No Derivatives 4.0 International (CC BY-NC-ND 4.0) license, allowing to download articles and share them with others as long as they credit the authors and the publisher, but without permission to change them in any way or use them commercially.

8. Kubica A, Gruchala M, Jaguszewski M, et al. Adherence to treatment — a pivotal issue in long-term treatment of patients with cardiovascular diseases. An expert standpoint. *Med Res J.* 2018; 2(4): 123–127, doi: [10.5603/mrj.2017.0016](https://doi.org/10.5603/mrj.2017.0016).
9. Kubica A, Pietrzykowski Ł. The therapeutic plan implementation in patients discharged from the hospital after myocardial infarction. *Med Res J.* 2021; 6(2): 79–82, doi: [10.5603/mrj.a2021.0024](https://doi.org/10.5603/mrj.a2021.0024).
10. Kubica A, Kasprzak M, Obońska K, et al. Discrepancies in assessment of adherence to antiplatelet treatment after myocardial infarction. *Pharmacology.* 2015; 95(1-2): 50–58, doi: [10.1159/000371392](https://doi.org/10.1159/000371392), indexed in Pubmed: [25592409](https://pubmed.ncbi.nlm.nih.gov/25592409/).
11. Kubica A, Kasprzak M, Obońska K, et al. Impact of health education on adherence to clopidogrel and clinical effectiveness of antiplatelet treatment in patients after myocardial infarction. *Med Res J.* 2016; 3(4): 154–159, doi: [10.5603/fmc.2015.0010](https://doi.org/10.5603/fmc.2015.0010).
12. Buszko K, Obońska K, Michalski P, et al. The Adherence Scale in Chronic Diseases (ASCD). The power of knowledge: the key to successful patient — health care provider cooperation. *Med Res J.* 2016; 1(1): 37–42, doi: [10.5603/mrj.2016.0006](https://doi.org/10.5603/mrj.2016.0006).
13. Kosobucka A, Pietrzykowski Ł, Michalski P, et al. Impact of readiness for discharge from the hospital on the implementation of the therapeutic plan. *Med Res J.* 2020; 5(4): 256–264, doi: [10.5603/mrj.a2020.0047](https://doi.org/10.5603/mrj.a2020.0047).
14. Ratajczak J, Kubica A, Michalski P, et al. Determinants of Lipid Parameters in Patients without Diagnosed Cardiovascular Disease—Results of the Polish Arm of the EUROASPIRE V Survey. *J Clin Med.* 2023; 12(7), doi: [10.3390/jcm12072738](https://doi.org/10.3390/jcm12072738), indexed in Pubmed: [37048821](https://pubmed.ncbi.nlm.nih.gov/37048821/).
15. Pietrzykowski Ł, Kasprzak M, Michalski P, et al. Therapy Discontinuation after Myocardial Infarction. *J Clin Med.* 2020; 9(12), doi: [10.3390/jcm9124109](https://doi.org/10.3390/jcm9124109), indexed in Pubmed: [33352811](https://pubmed.ncbi.nlm.nih.gov/33352811/).
16. Kosobucka A, Michalski P, Pietrzykowski Ł, et al. The impact of readiness to discharge from hospital on adherence to treatment in patients after myocardial infarction. *Cardiol J.* 2022; 29(4): 582–590, doi: [10.5603/CJ.a2020.0005](https://doi.org/10.5603/CJ.a2020.0005), indexed in Pubmed: [32037501](https://pubmed.ncbi.nlm.nih.gov/32037501/).
17. Kubica A, Kosobucka A, Fabiszak T, et al. Assessment of adherence to medication in patients after myocardial infarction treated with percutaneous coronary intervention. Is there a place for new self-reported questionnaires? *Curr Med Res Opin.* 2019; 35(2): 341–349, doi: [10.1080/03007995.2018.1510385](https://doi.org/10.1080/03007995.2018.1510385), indexed in Pubmed: [30091642](https://pubmed.ncbi.nlm.nih.gov/30091642/).