

THE IMPACT OF OBESITY AND METABOLIC DISORDERS ON THE RISK OF ONCOLOGICAL DISEASES IN WOMEN

Sabirova Kh.T.

Tashkent State Dental Institute, Uzbekistan

Abstract. This article examines the impact of obesity and metabolic disorders on the risk of developing oncological diseases in women. The mechanisms of the influence of excess weight, insulin resistance, chronic inflammation, and hormonal changes on carcinogenesis are analyzed. Modern epidemiological research data are presented, and possible preventive measures are discussed.

Keywords: Obesity, Metabolic Disorders, Oncological Diseases, Women's Health, Cancer Risk,

Introduction. Obesity is a global public health problem affecting millions of women worldwide. According to the World Health Organization (WHO) [1], excess weight and obesity are significant risk factors for various oncological diseases, including breast, endometrial, and ovarian cancer. Metabolic disorders, such as insulin resistance, hyperinsulinemia, and chronic inflammation, play a key role in stimulating cell proliferation and tumor development [2].

Methods. This study analyzed scientific publications, clinical studies, and meta-analyses assessing the relationship between obesity, metabolic disorders, and the risk of developing oncological diseases in women.

Results and Discussion.

1. **Obesity as a risk factor.** Excess weight contributes to an increase in estrogen levels due to the aromatization of androgens in adipose tissue, increasing the risk of hormone-dependent tumors such as breast and endometrial cancer [3]. According to research, women with a body mass index (BMI) >30 have a 20–40% increased risk of developing these types of cancer [4].
2. **Insulin resistance and hyperinsulinemia.** Metabolic disorders associated with obesity lead to elevated levels of insulin and insulin-like growth factor-1 (IGF-1), which promote uncontrolled cell division and inhibit apoptosis [5]. This creates favorable conditions for tumor development, particularly endometrial cancer [2].
3. **Chronic inflammation and oxidative stress.** Obesity is associated with chronic inflammation caused by the activity of pro-inflammatory cytokines (IL-6, TNF- α) and NF- κ B activation [5]. These mechanisms contribute to carcinogenesis by stimulating cell proliferation and reducing the effectiveness of immune surveillance over tumor cells [4].
4. **The impact of obesity on therapeutic prognosis.** Patients with obesity demonstrate a poorer response to chemotherapy and hormone therapy, which is associated with altered drug pharmacokinetics and tumor cell resistance [3]. Additionally, high levels of inflammation in the body reduce the effectiveness of immune mechanisms in combating cancer cells [5].

Prevention and Recommendations. To reduce the risk of oncological diseases in women, the following measures are recommended:

- Weight control and maintaining BMI within the normal range.
- Regular physical activity (at least 150 minutes of moderate exercise per week).
- A balanced diet rich in antioxidants and fiber, with reduced consumption of saturated fats and simple carbohydrates.
- Monitoring glucose and insulin levels, especially in women with metabolic syndrome.
- Early detection programs and preventive screenings by endocrinologists and oncologists.

Conclusion. Obesity and metabolic disorders have a significant impact on the risk of oncological diseases in women. Weight control, physical activity, and a balanced diet are key preventive measures. Further research is necessary to deepen the understanding of the relationship between obesity and carcinogenesis, as well as to develop effective strategies for reducing morbidity.

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