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ANALYSIS OF RISK FACTORS ASSOCIATED WITH CANCER DEVELOPMENT

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Introduction. Cancer is currently one of the major global medical and social challenges, characterized by high incidence and mortality rates worldwide. The development of malignant neoplasms is influenced by various factors, including genetic predisposition, age, adverse environmental exposures, harmful habits, physical inactivity, and unhealthy dietary patterns. In particular, modern lifestyles characterized by excessive consumption of high-calorie foods rich in fats and sugars but poor in nutritional value, increased intake of processed meat products, and insufficient consumption of vegetables, fruits, and dietary fibre are associated with an increased risk of certain types of cancer. Furthermore, overweight and obesity may increase susceptibility to certain malignancies through insulin resistance, hormonal imbalance, and chronic inflammatory processes. Therefore, a comprehensive analysis of risk factors contributing to cancer development, particularly dietary factors, assessment of their preventive significance, and promotion of healthy eating practices are of considerable scientific and practical importance in primary cancer prevention [1,4,6].

Aim of the study. To analyse the major risk factors contributing to cancer development, with particular emphasis on dietary factors.

Main part. Cancer is a disease characterized by the loss of normal cellular control over growth, division, and programmed cell death as a result of genetic alterations. Tumour cells invade surrounding tissues and spread to distant organs through the blood and lymphatic systems, resulting in the formation of metastases. Histologically, malignant neoplasms originating from epithelial tissues are classified as carcinomas, those arising from connective tissues as sarcomas, those originating from haematopoietic tissues as leukaemias, and those developing from lymphoid tissues as lymphomas.

Cancer risk factors can be broadly classified into three groups: Physical and chemical factors: ultraviolet and ionizing radiation, tobacco smoke, asbestos, benzene, aflatoxins, and other carcinogenic agents. Tobacco smoking is a major cause of lung cancer, which remains one of the most frequently diagnosed and leading causes of cancer-related mortality worldwide [3,7]. Biological factors: human papillomavirus (associated with cervical cancer), hepatitis B and C viruses (associated with liver cancer), Epstein–Barr virus, and Helicobacter pylori infection (associated with gastric cancer). Lifestyle and hereditary factors: obesity, physical inactivity, excessive consumption of processed meat and alcohol, as well as genetic predisposition. It is estimated that approximately 30–50% of cancer cases can be prevented by eliminating or reducing exposure to modifiable risk factors. The major risk factors contributing to cancer development include tobacco use, which increases the risk of lung, oral cavity,

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laryngeal, oesophageal, and other cancers; alcohol consumption, which is associated with malignancies of the oral cavity, pharynx, oesophagus, liver, colorectum, and breast; and overweight and obesity, which increase the risk of endometrial, kidney, liver, colorectal, and postmenopausal breast cancers. Physical inactivity also contributes to the development of certain malignancies through obesity and metabolic disturbances. Infectious agents, including human papillomavirus (HPV), hepatitis B and C viruses, and Helicobacter pylori, are associated with specific types of cancer. Environmental risk factors include ultraviolet radiation, ionizing radiation, air pollution, and occupational exposure to carcinogenic substances. In addition, genetic predisposition and advancing age contribute to an increased likelihood of developing certain malignancies.

The prevention of cancer requires the promotion of healthy dietary habits, maintenance of a healthy body weight, and regular physical activity. Increasing the consumption of vegetables, fruits, legumes, and whole grains while limiting processed meat, excessive salt, sugar, and high-fat foods is recommended. Furthermore, avoiding tobacco and alcohol consumption, vaccination against HPV and hepatitis B, and undergoing appropriate cancer screening examinations are essential components of cancer prevention.

Conclusion. Lifestyle-related and dietary risk factors play a significant role in cancer development. Adopting healthy dietary habits, avoiding harmful behaviours, increasing physical activity, and maintaining a healthy body weight can reduce the risk of developing certain types of cancer. Therefore, promoting healthy eating practices and strengthening preventive measures are essential components of primary cancer prevention.

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