عنوان مقاله:
The Effect of Biological Clock & Molecular Clock in Cancer

محل انتشار:
اولین سمپوزیوم بین المللی سرطان نسترن (سال: 1394)

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خلاصه مقاله:
With the modernity of the world today and disruption and changing of lifestyle of people and the incidence of a phenomenon named insomnia, enough grounds has been provided for development of many common diseases like cancer; hence, one of the most controversial newest discussions in cancer genetics is the issue of circadian rhythm and molecular clock and their influence on the cancer risk. While the modern lifestyle has affected our circadian habits, many of the molecular and metabolic processes are also influenced by it and it plays a significant role in the ground of cancer risk. When the immune system of the body fails to effectively defend the body against the possible tumors, then cancer occurs. Changes in the levels of melatonin leads to some defects in the immune system. Also, the effect of melatonin on the estrogen signaling pathways leads to the induction effects of tumorogenesis. Undoubtedly, changes in the melatonin levels and changes in the heart rate are the first significant changes of the circadian rhythm. Moreover, a decrease in melatonin is considered as one of the risk factors for development of the breast cancer in women. Many genes related to the circadian, regulating of the rhythms of the biological clock of our body, play an important role in many molecular mechanisms in cancer, including apoptosis and cell cycle check-point. In this review article, we have tried to discuss the relationship between themolecular clock and the biological clock and cancer risk, especially breast cancer in women by mentioning the molecular cause of time incidents in the human body, and, moreover, having recommendation to set up circadian habits as an important factor in preventing cancer development.

کلمات کلیدی:
Biological Clock, Molecolar Clock, Cancer, Circadian, Immune System

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