The light-dark regimen and cancer development

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The role of the modulation of the pineal gland function in development of cancer is discussed in the review. An inhibition of the pineal function with pinealectomy or with the exposure to the constant light regimen stimulates mammary carcinogenesis, whereas the light deprivation inhibits the carcinogenesis. Epidemiological observations on increased risk of breast cancer in night shift workers, flight attendants, radio and telegraph operators and on decreased risk in blind women are in accordance with the results of experiments in rodents. Treatment with pineal indole hormone melatonin inhibits carcinogenesis in pinealectomized rats or animals kept at the standard light/dark regimen (LD) or at the constant illumination (LL) regimen.