Postgraduate Certificate in Psycho-Oncology

Psychoneuroimmunology in Cancer

B cell: A type of white blood cell that is part of the immune system and produces antibodies to help fight infections. In the context of psychoneuroimmunology, stress and negative emotions can affect B cell function and antibody production, which can impact cancer progression.

Cancer: A group of diseases characterized by the uncontrolled growth and spread of abnormal cells. Psychoneuroimmunology examines the complex interactions between the nervous system, endocrine system, and immune system in cancer development, progression, and treatment.

Catecholamines: A group of hormones, including adrenaline and noradrenaline, that are released in response to stress. They can have immunosuppressive effects, which may impact cancer progression.

Cytokines: A type of signaling molecule that plays a crucial role in the immune response. They can have both pro- and anti-tumor effects, and their production and regulation can be influenced by psychoneuroimmunological factors.

Depression: A common mental health disorder characterized by persistent feelings of sadness, hopelessness, and a lack of interest or pleasure in activities. Depression can have a negative impact on cancer outcomes, and psychoneuroimmunological interventions may help improve symptoms and quality of life.

Endocrine system: A collection of glands that produce and secrete hormones into the bloodstream. The endocrine system plays a key role in regulating various bodily functions, including metabolism, growth and development, tissue function, sexual function, reproduction, sleep, and mood.

Immune system: A complex network of cells, tissues, and organs that work together to defend the body against foreign invaders, such as bacteria, viruses, and cancer cells. Psychoneuroimmunological research examines the impact of stress, emotions, and other psychological factors on immune function and cancer.

Inflammation: A localized response to tissue damage or infection, characterized by redness, heat, swelling, and pain. Chronic inflammation has been linked to an increased risk of cancer, and psychoneuroimmunological interventions may help reduce inflammation and improve cancer outcomes.

Nervous system: A complex network of nerves and cells that transmit signals between different parts of the body. The nervous system plays a key role in regulating various bodily functions, including movement, sensation, and cognition. Psychoneuroimmunological research examines the impact of stress, emotions, and other psychological factors on nervous system function and cancer.

Neurotransmitters: Chemical messengers that transmit signals between nerves and other cells in the body. Neurotransmitters play a crucial role in regulating various bodily functions, including mood, cognition, and movement. Psychoneuroimmunological research examines the impact of stress, emotions, and other psychological factors on neurotransmitter function and cancer.

Psychoneuroimmunology: The study of the complex interactions between the nervous system, endocrine system, and immune system. Psychoneuroimmunology examines how stress, emotions, and other psychological factors can impact immune function and cancer development, progression, and treatment.

Psychological stress: A state of mental or emotional strain or tension resulting from adverse or demanding circumstances. Chronic psychological stress has been linked to an increased risk of cancer and poorer cancer outcomes, and psychoneuroimmunological interventions may help reduce stress and improve quality of life.

Stress response: A complex set of physiological and psychological changes that occur in response to stress. The stress response is mediated by the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system, and can have both positive and negative impacts on cancer outcomes.

T cell: A type of white blood cell that is part of the immune system and plays a crucial role in cell-mediated immunity. T cells can recognize and attack cancer cells, and their function and regulation can be influenced by psychoneuroimmunological factors.

Tumor microenvironment: The environment surrounding a tumor, including the extracellular matrix, blood vessels, and various cell types. The tumor microenvironment can be influenced by psychoneuroimmunological factors, and can impact cancer progression and treatment.

Anxiolytic: A type of medication used to treat anxiety disorders. Anxiolytics can have immunomodulatory effects, which may impact cancer progression and treatment.

Cognitive-behavioral therapy (CBT): A type of psychotherapy that focuses on changing negative thought patterns and behaviors. CBT has been shown to be effective in reducing stress, depression, and anxiety in cancer patients, and may have immunomodulatory effects.

Mind-body interventions: A variety of techniques, such as meditation, yoga, and guided imagery, that aim to reduce stress and improve well-being by promoting relaxation and self-awareness. Mind-body interventions have been shown to have immunomodulatory effects and may improve cancer outcomes.

Psychological intervention: Any treatment or therapy that targets psychological factors, such as stress, depression, and anxiety, in order to improve physical health outcomes. Psychological interventions can have immunomodulatory effects and may improve cancer outcomes.

Psycho-oncology: A field of study that focuses on the psychological, social, and behavioral aspects of cancer. Psycho-oncology examines the impact of stress, emotions, and other psychological factors on

cancer development, progression, and treatment.

Relaxation therapy: A type of therapy that aims to promote relaxation and reduce stress. Relaxation therapies, such as progressive muscle relaxation and deep breathing, have been shown to have immunomodulatory effects and may improve cancer outcomes.

Stress management: Any intervention or technique that aims to reduce or manage stress. Stress management interventions, such as cognitive-behavioral therapy and mind-body interventions, have been shown to have immunomodulatory effects and may improve cancer outcomes.

Supportive care: Any intervention or service that aims to improve the quality of life of cancer patients and their families. Supportive care interventions, such as psychosocial support and palliative care, can have immunomodulatory effects and may improve cancer outcomes.

Biofeedback: A technique that involves using electronic devices to measure and feedback physiological responses, such as heart rate and muscle tension, in order to promote relaxation and reduce stress. Biofeedback has been shown to have immunomodulatory effects and may improve cancer outcomes.

Cortisol: A hormone produced by the adrenal gland in response to stress. Cortisol has immunosuppressive effects and can impact cancer progression and treatment.

Hypothalamic-pituitary-adrenal (HPA) axis: A complex network of glands and hormones that regulates various bodily functions, including stress response, metabolism, and immune function. Dysregulation of the HPA axis has been linked to an increased risk of cancer and poorer cancer outcomes.

Immunomodulation: The modification or regulation of the immune system. Psychoneuroimmunological interventions, such as stress management and mind-body interventions, can have immunomodulatory effects and may improve cancer outcomes.

Immunosurveillance: The process by which the immune system detects and eliminates abnormal cells, such as cancer cells. Psychoneuroimmunological interventions, such as stress management and mind-body interventions, may enhance immunosurveillance and improve cancer outcomes.

Innate immunity: The non-specific defense mechanisms of the immune system, such as inflammation and phagocytosis. Psychoneuroimmunological interventions, such as stress management and mind-body interventions, may enhance innate immunity and improve cancer outcomes.

Neuroinflammation: Inflammation of the nervous system, characterized by the activation of glial cells and the production of pro-inflammatory cytokines. Neuroinflammation has been linked to an increased risk of cancer and poorer cancer outcomes, and psychoneuroimmunological interventions may help reduce neuroinflammation and improve outcomes.

Placebo effect: A phenomenon in which a patient experiences a perceived or actual benefit from a

treatment that has no therapeutic effect. The placebo effect can be influenced by psychoneuroimmunological factors, such as expectation and belief.

Sympathetic nervous system: The part of the autonomic nervous system that is responsible for the "fight or flight" response to stress. The sympathetic nervous system can have both positive and negative impacts on cancer outcomes.

Tumor-infiltrating lymphocytes (TILs): White blood cells that have infiltrated a tumor and play a crucial role in the immune response to cancer. T