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Book Review

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Book review

Infectious diseases take time to show clinical signs. The most common is to present a dysfunction of the target organ, that is, if the infection is in the neural system the most common sign is headache, if the infection is pulmonary the most common symptom is cough, if the infection is in gastrointestinal tract, diarrhea. However, there are more general signs such as fever, in appetence and dynamic, which are generalized manifestations that reflect that the organ system is experiencing an infection. There are complementary tests that help in the correct diagnosis of these infections.

The diagnosis of gastrointestinal diseases is predominantly related to the patient's history and, to a lesser extent, to the physical examination performed by the physician. Laboratory tests and imaging studies can provide objective evidence for or against a particular disease, among those included in the differential diagnosis and determined by a competent and accurate history and physical examination. The diagnoses arise from specific symptoms (eg, dysphagia) or gastrointestinal complaints (eg, diarrhea) that accompany extra-intestinal symptoms or physical findings (eg, the arthritis of inflammatory bowel disease or the flush of carcinoid syndrome). However, gastrointestinal symptoms do not originate only from disease or dysfunction of the gastrointestinal tract, but also from the brain-intestinal axis and bloodstream, as well as from dysfunction or pathology of other organs, especially the central nervous system (CNS). For example, a frequent symptom of gastrointestinal disease, nausea and vomiting, can either result from stimulus that affect the CNS or from stimuli originating in the gastrointestinal tract. Other common symptoms are abdominal pain, weight loss, bleeding, diarrhea and constipation.[1]

Blood is a circulatory fluid of multicellular animals. In many species it also carries hormones and disease-fighting substances. The blood picks up oxygen lungs and nutrients in the gastrointestinal tract and transports them to cells throughout the body for the metabolism. Also captures carbon dioxide and other waste from these cells, leading them to the lungs and the excretory organs. The composition of blood varies between species. The blood of the mammals consists of plasma, red and white blood cells (erythrocytes and leukocytes) and platelets (thrombocytes). Between the disorders, blood disorders include: polycythemia (abnormal increase in the number of circulating red blood cells), anemia, leukemia and hemophilia.[2]

The laboratory examination of a blood sample is a way of detecting the organic response in more detail. Reduction in the amount of elements of the red series, such as a decrease in hemoglobin and platelets, indicate that there is some type of spoliation taking place, as well as an increase in the white series, such as an increase in leukocytes, indicating a reaction of the defense system to a foreign body. However, leukocyte depletion can also be indicative of invasion. Lymphopenia, i.e. a decrease in lymphocytes, is common in viral infections. These laboratory findings related to signs and symptoms lead to the reasoning of infection.

The immune system is the main barrier to protection against infections. Cells such as T and B lymphocytes, macrophages, neutrophils, among others, make up the white blood series and are the

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body's innate and acquired defense mechanisms. The proliferation of these cells is known as leukocytosis, and in most cases they indicate an infection. It is these cells that have mechanisms that fight the infection itself as well as products, such as toxins produced by bacteria.

Phagocytes, including neutrophils and macrophages, are cells whose primary function is to ingest and destroy microbes and remove damaged tissues.[3]

Neutrophils are the most abundant population of circulating white blood cells and the principal cell type in acute inflammatory reactions.[3]

The mononuclear phagocyte system includes circulating cells called monocytes, which become macrophages when they migrate into tissues, and tissue resident macrophages, which are derived mostly from hematopoietic precursors during fetal life.[3]

Mast cells are bone marrow–derived cells present in the skin and mucosal epithelia, which upon activation, release many potent inflammatory mediators that defend against parasite infections, or cause symptoms of allergic diseases.[3]

Basophils are blood granulocytes with many structural and functional similarities to mast cells.[3]

Eosinophil's are granulocytes that express cytoplasmic granules containing enzymes that are harmful to the cell walls of parasites but can also damage host tissues.[3]

Lymphocytes, the unique cells of adaptive immunity, are the only cells in the body that express clonally distributed antigen receptors, each specific for a different antigenic determinant.[3]

Excretion is a body process by which waste products are eliminated undigested products of food waste and the nitrogenous derivatives of metabolism, by regulating the water content, maintenance of acid-base balance, and the control of osmotic pressure to promote homeostasis. It refers both to urination and defection as well as to the processes that take place in the urinary and digestive systems, when the kidneys and liver filter out wastes, toxins and blood and food drugs reach the last stage of digestion. Ammonia, the primary excretory product of digestion of proteins is converted into urea to be excreted in the urine.[2]

The characteristics of the urine can also aid in the diagnosis of infection. Normal urine has a watery appearance, a light gold-yellow color with an abundant amount, and absent of pain. Any change in these parameters can represent an infectious condition. The presence of secretions in urine, color changes and the presence of pain when urinating are hallmarks of an infection. However, the lack of urine production can represent a manifestation of a serious infection. Sepsis, which is a syndrome of generalized infection, is represented by the withdrawal of fluid from the entire body to the vital organs, resulting in a decrease in urine production, a sign translated as oliguria. In addition, pain in the pelvic region or even generalized pain accuses the appearance of some infection. All of this can be the outcome of an infection that started with poor hygiene or waste contamination.

Septicemia or blood poisoning or Sepse is an invasion of the bloodstream in the postoperative period, or as a consequence of infectious diseases caused by microorganisms usually gram negative bacteria – and the toxins they release. The latter trigger immune responses and disseminated coagulation in vessels sanguine. High fever, chills, weakness and sweating followed by a drop in blood pressure. There are often multiple infections that require broad-spectrum antibiotics, as well as the drainage of focus of infection. Without immediate treatment progresses to shock septic, with a lethality of more than 50%. The sepsis has made more serious and frequent due to invasive technology and the development of antibiotic-resistant bacteria in hospitals.[2]

Some nutrients help the immune system. Vitamin C, for example, present in citrus fruits, is a vitamin that helps in strengthening and maintaining the immune system.

Vitamin is an organic compound required in small amounts in the diet to maintain metabolic functions normal liquors. The term vitamin (1911) does not imply that all vitamins are AMINES (that is, they do not all contain nitrogen). Many vitamins act as coenzymes or are turned into such. They do not provide energy or are incorporated into tissues. Water-soluble vitamins (complex of Vitamin B, Vitamin C) are rapidly excreted. Fat-soluble or fat-soluble vitamins (Vitamin A, Vitamin D, Vitamin E and Vitamin K) require certain salts of the bile (bile salts) to be absorbed and stored in the body. The normal functions of many vitamins are known. Deficiency of specific vitamins can cause diseases, such as Beriberi, Neural Tube Defects, Anemia Pernicious, Rickets and Scorbutic. Excessive amounts, especially of fat-soluble vitamins, also can be dangerous: for example, too much vitamin A produces liver damage, an effect not seen with beta-carotene, which the body converts to vitamin A. Today it is known that several vitamins support the immune system. A balanced diet supplies adequate amounts of most of the vitamins, but some people with higher requirements they need supplements.[2]

Antioxidant are any of several compounds that are added certain foods, natural and synthetic rubber, gasoline and other products to retard autoxidation (combination with the oxygen of air at room temperature) and its effects. Aromatic compounds, such as aromatic amines, phenols and aminophenol's, retard the loss of elasticity of the rubber and gummy gasoline deposits. Preservatives, such as tocopherol (vitamin E), propyl gallate, hydroxytolu-

ene mutilated (BHT) and mutilated hydroxyanisole (BHA), prevent the rancidity of fats, oils and fatty foods. In the body, antioxidants such as vitamins C and E, in addition to selenium, can reduce oxidation caused by free radicals.[2]

Vitamin C also called ascorbic acid is a compound organic soluble in water, important in animal metabolism. Most animals produce it, however, humans, other primates, and guinea pigs, they need in the diet to prevent Scorbutic. It is essential in collagen synthesis, wound healing, maintenance of blood vessels and immunity. Some studies have found a modest benefit from vitamin C to reduce the duration and severity of the common cold. Vitamin C functions as an antioxidant in the body and is uses it as a preservative. It is easily destroyed by the oxygen. Citrus fruits and fresh vegetables constitute excellent sources of vitamin C.[2]

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Conflicts of interest

The authors declare no conflict of interest

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