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Commentary

Importance of Analysis of Body Fluids in Diagnosis

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DESCRIPTION

All liquids that are secreted or eliminated from the body are referred to as bodily fluids. Fluids of many different kinds make up the human body. The functions of the body are maintained in part by these fluids. blood serum (carries blood cells, nutrients, hormones and others), urine (waste product secreted by the kidney), fluid between tissues (fluid that are located in between cells) , brain- and spinal- fluid (fluid surrounding the brain and spinal cord), intestinal fluid and saliva (aid the process of digestion) are some of the famous fluids. Body fluid analysis is essential for determining a disease's diagnosis and prognosis. A physiological or pathological condition is indicated by a change in the concentration or make-up of a certain biochemical ingredient in body fluids. Therefore, one could consider bodily fluids as a disease marker. Early recognition of these markers can result in a definitive reading and rapid medical approaches. Monitoring a certain substances during the course of a sickness, whether it is an endogenous or exogenous substance, it can also provide information about how well a particular treatment is working. Blood and urine samples are mostly used as samples for diagnosis. The word "body fluid" is most frequently used in regards to health and medicine. In a medical laboratory, body fluids can be examined to look for microorganisms, inflammation, malignancies, etc. Clinical samples are typically referred to as non-infectious human or animal substances including blood, saliva, excreta, bodily fluids, and blood-derived medications that have received FDA approval. In medical contexts, a specimen is something that is taken for a diagnostic examination or evaluation and for the purpose of identifying a condition or disease. Typically, samples are extracted by collecting the fluid (such as urine or semen) in a container or by aspirating some of the fluid with a syringe after entering a needle into a body cavity (CSF, pericardial fluid, etc.). Once a sample has been collected, various testing, such as chemical checks, microscopic analyses, and infectious disease tests, may be carried out.

Different analyses of bodily fluids

Urinalysis: Urine testing is used to diagnose and treat a variety of conditions including kidney disease, diabetes, and urinary tract infections. An abnormal urinalysis may suggest a specific disease or sickness and call for more testing.

Semen analysis: This test is usually conducted to find out the man's fertility and also about his reproductive health as well as to assess the effectiveness of a vasectomy.

Fetal FibroNectin (fFN): If a woman is 26 to 34 weeks pregnant and exhibiting signs of an approaching labour, Foetal FibroNectin (fFN) testing is done. The next step is to take action to prevent the possibly dangerous health issues that could result from having a pre-term baby.

CSF analysis: To identify a sickness or condition that affects the Central Nervous System (CNS), such as an infection, malignancy, or bleeding inside the brain or skull.

Synovial fluid analysis: Analysis of synovial fluid is utilised to identify the origin of joint swelling, discomfort, and/or inflammation.

Pleural fluid analysis: This test helps to identify the origin of pleural inflammation (pleuritis, pleurisy), fluid buildup in the pleural space (pleural effusion), or potential cancer.

Pericardial fluid analysis: It helps to identify the origin of the fluid buildup around the heart, so sampling pericardial fluid alone for study is unusual. The fluid from pericardial tamponade, which is collected for therapeutic purposes, is usually sent for analysis. particularly when a bacterial or cancerous aetiology is under investigation or when the reason for a large growth is unknown.

Peritoneal fluid analysis: It helps in determining the origin of peritoneal fluid buildup or peritonitis (called ascites).

CONCLUSION

Body fluid analysis is essential for determining a disease's diagnosis and prognosis. A physiological or pathological condition is indicated by a change in the concentration or make-up of a certain biochemical ingredient in body fluids. Body fluid analysis is also used to perform diagnostic and therapeutic screenings. The conclusions of the clinical laboratory's study of body fluids are a major factor in many medical decisions.

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Therefore, it is the responsibility of the clinical laboratory to provide accurate information for the identification, diagnosis, prognosis, prevention, and/or treatment of human diseases. The clinical laboratory must therefore be suitably outfitted with the most up-to-date and effective analytical techniques in order to quantify chemical species in biological fluids.