Department of Pathology at HHUMC: A Leading Medical Laboratory in the South

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You may have once experienced it yourself or heard it from someone who underwent surgery: tissues or organs removed during surgery are sent to the pathology laboratory for examination.The result of this examination is delivered in the form of a pathology report, a document that plays an important role in determining how the patient will be treated. The surgeon performing the operation may at times request a quick result while the operation is still underway in order to determine what to do next. But did you ever wonder what happens to the tissues in this pathology lab?

Initially, let us discuss what a pathology laboratory department does.The laboratory is a specialized medical department that is not found in every hospital, but generally present in large ones. The lab receives all the tissues or organs extracted during surgery to be handled by a pathologist who is a specialized medical doctor. The pathologist has to complete 5 years of training in the general pathology specialty after receiving a medical degree and sometimes may extend his or her studies by a year or two in a subspecialty focusing on one specific organ such as breast or kidney pathology. Additionally, a team of medical technologists (holding a minimum of BS degrees) maintain a good experience in handling such specimen to help in preparing the tissue in order to assist the pathologist.

In the first step of the procedure, the pathologist will examine the biopsy and manually process the tissue before it is submitted to a specialized machine for further processing. This step will require up to 48 hours to be completed. After that, the tissue is handled by a medical technologist who performs several steps to produce stained glass slides representing the biopsy (the experience here is a must because machines alone cannot complete such tasks where manual techniques are needed). Now, the slides are ready to be examined under the microscope by the pathologist. At this level, the pathologist implements all the knowledge and information that he or she attained throughout the years of education and experience into what they asses under the microscope to reach an accurate diagnosis. This final step is very critical because the output result guides clinical decision-making and subsequent clinical management of the patient.

Completion of such an important task warrants adequate time to study the case, consult with the surgeon or the physician taking care of the patient, check the radiology results (when applicable), blood tests or any other laboratory results to reach a more comprehensive understanding of the case. Some cases may require more advanced ancillary tests and this may extend the time needed to report the final diagnosis.

What we described here is the routine and traditional way of handling biopsies and this practice is confined to any pathology laboratory. Currently, technological advancements have provided the pathologists with new procedures that will help them provide more precise and personalized diagnosis. Personalized medicine depends heavily on genetic testing known as molecular pathology where specific markers can be detected on any biopsy, allowing the clinicians to give what is known as targeted therapy. This kind of treatment is not generalized and cannot be given to all patients with the same disease. For example, not all patients with lung cancer can receive the same drug. In molecular pathology, we stratify lung cancer patients into many different groups and each group will receive a specific drug or treatment. This stratification is becoming larger with advancing technology and increasing research discoveries of new tissue markers. Thus the groups of people receiving the same treatment are further segmented to reach specific targeted therapies to individuals and thus enhance cure prospects. This type of testing depends largely on the analysis done on the tissues submitted to the pathology laboratory.

Hammoud Hospital University Medical Center (HHUMC) had established the first pathology laboratory in the South many years ago. During its earlier days, the laboratory relied on basic tests for diagnosis, but as it expanded its capabilities, increased to include advanced diagnostic methods. In 2009, the laboratory got affiliated with the Pathology and Medical Laboratory Department at the American University of Beirut Medical Center. A team of professional pathologists operates this laboratory, supported by a specialized team of technologists. The team of pathologists works together when dealing with difficult and complicated cases to provide the most accurate diagnosis in an efficient time frame. Furthermore, it is the only laboratory in the southern area of Lebanon that provides the frozen section procedure, which is a quick test performed while the patient is undergoing surgery while remaining under anesthesia. This technique provided by the pathologist guides the surgeon with a preliminary diagnosis that guides the surgical management of the patient during the operation.

Pathology is an integral part of medical practice that guides surgical and clinical management of patients. Currently, pathology plays a key role in personalized medicine, where it helps in segregating patients with the same disease into smaller groups benefiting from new treatment modalities that advanced research has been uncovering.

Infos

Asthme: les Effets Néfastes de la Charcuterie

Selon une étude menée par une équipe de chercheurs internationaux, manger régulièrement de la charcuterie pourrait aggraver les crises d'asthme.
Risques de développer des bronchopneumopathies chroniques obstructives
Vous êtes asthmatique? Il est grand temps de vous éloigner des plats de charcuterie. C'est en tout cas ce que révèle une étude menée par des chercheurs de l'Institut national de la santé et de la recherche médicale (Inserm), du Centre national espagnol de recherche sur le cancer, du Centre de recherche en épidémiologie environnementale, de l'Instituto Nacional De Salud Publica (Mexique) et de la Harvard Medical School aux Etats-Unis.

Selon ces travaux, publiés dans la revue médicale *Thorax*, manger régulièrement de la charcuterie augmenterait de façon significative les crises d'asthme. Déjà classée cancérogène par l'Organisation mondiale de la Santé (OMS), **la consommation de charcuterie serait associé à un risque accru de développer des**

bronchopneumopathies chroniques obstructives (BPCO). Elle n'est donc clairement pas recommandée pour les asthmatiques.
Pour parvenir à cette conclusion, les chercheurs ont suivi plus de 1 000 personnes, âgées en moyenne de 43 ans, pendant sept ans. Pendant ce suivi, 20% des participants ont souffert de crises d'asthme de plus en plus violentes et répétitives. En étudiant leurs habitudes alimentaires, les chercheurs ont pu constater que **la consommation de viande transformée 4 fois par semaine ou plus augmentait de 76% le risque d'aggravation des symptômes d'asthme.**