

Digital system for stereotaxic biopsies

CSIC, along with IFAE (Barcelona) and Parc Taulí Hospital (Sabadell) has developed a digital system for the real-time steering of needles employed in the acquisition of biopsies. Its use provides better precision, and higher speed, is more reliable, and thus causes a few trauma and more comfort in patients. The device emits and detects X rays and processes them to generate the stereotaxic images in real time.

An offer for Patent Licensing

Real time images for biopsies

State-of-the-art stereotaxic surgical techniques to perform biopsies use two static images from which the 3D coordinates of the injury to be analyzed or extracted can be calculated. However, steering of the needle by static images to guide its insertion rule out real-time repositioning to reach the injury without failure. Neither tissue elasticity nor changes in position of the injury due to previous biopsies can be taken into account, which adds to the inaccuracy of the final result.

A research group of CSIC has developed a new digital system capable of solving these problems by employing X-rays for the acquisition of the images. This new guiding technique makes it possible to obtain real-time, and fast images of the sample to be extracted, causing less pain to the patient.

Much reliable and less invasive Biopsies. The technique allows using short-time markers to enhance image quality and can thus be employed for very small or low-contrast injuries.

The system employs two complete sets of generation, detection and processing of X-rays, together with the appropriate tools for positioning and production of the image once it has been processed. The technique results in a minor trauma and more comfort for the patient, since reliable and accurately located biopsy samples are retrieved faster by the medical staff.

Main innovations and advantages

- Direct conversión of photons allows a minor X-rays radiation dose received by patients.



Fig.1) Biopsy of a mammary gland. Fig..2) Commercial equipment to obtain stereotaxic biopsies.

Patent Status

Ver el documento Explicaciones para rellenar el folleto (formato = Gill Sans MT 10, alineación = justificado)

