

PRESS RELEASE

Esch/Alzette, 22 May 2024

SHORT APNEA RADIOTHERAPY ARRIVES IN LUXEMBOURG

Centre François Baclesse (CFB) is now offering its breast cancer patients a technique to reduce the potential cardiac and pulmonary toxicities of breast radiotherapy: DIBH (Deep Inspiration Breath Hold), a first in Luxembourg.

Holding one's breath to limit cardiac damage

Radiotherapy involves the use of ionizing radiation to destroy cancer cells, while preserving surrounding healthy tissues and organs as much as possible. When treating breast cancer (particularly the left breast), preserving the heart and cardiac sub-structures (such as the left coronary artery and left ventricle) is made more difficult by the proximity of the area to be treated.

The DIBH method, which has already been used on some thirty patients at the CFB, is based on blocked deep inspiration, which causes the ribcage to inflate, thus moving the heart and lung away from the treated breast. Radiotherapy is administered when the patient, after taking a deep breath, blocks her breathing for around twenty seconds several times during the session.

"This technique significantly reduces the average dose to the heart and cardiac sub-structures, decreasing long-term cardiac side effects (beyond 10-15-20 years) by an average of 7.5% per Gray (unit for measuring the dose absorbed during irradiation by ionizing radiation)," explains Dr. Bérangère Frédérick, Radiation Oncologist at the CFB.

A "simple" but highly supervised method combined with cutting-edge technologies

While this method may seem very simple, its implementation is far more complex, requiring appropriate training of nursing staff and coaching of patients to ensure their compatibility with the method.

Indeed, *"blocking your breathing for twenty seconds is not always easy under normal conditions; add to that the stress of the treatment, sometimes the patient's age, etc... that's why a lot of coaching is needed upstream to prepare patients as well as possible for this exercise"*, explains Stéphane Ciota, Medical Technical Assistant in Radiology (ATM RX) at the CFB.

Although DIBH treatment is based on a simple mechanical principle, it requires extreme precision, which calls for the use of state-of-the-art equipment. This is now possible at the CFB thanks to the acquisition of three new AlignRT® surface positioning devices for surface-guided radiotherapy.

"This is a continuous three-dimensional acquisition of the patient's surface, based on the use of several optical cameras. The acquired surface is compared with an expected surface extracted from the initial simulation scan. ATM X-rays can continuously detect any malposition, anatomical deformity or patient misalignment. The system provides positioning assistance, possibly without tattooing, as well as patient follow-up during the session", explains Dr Frédérick. These devices make for greater precision and safety, and keep side effects to a minimum.

“Until now, patient positioning was based solely on three tattoo points, which were sometimes difficult to place or even to find; by combining them with these new devices, it's as if we had thousands of fictitious tattoos at our disposal,” asserts Stéphane Ciota.

“Better” healing

Radiotherapy is an effective treatment method, but not without risk. After radiotherapy treatment, side effects, also known as “toxicity”, are frequent and have an impact on the patient's quality of life.

The practice of DIBH at the CFB is part of a global commitment to “better healing” the patient by minimizing the risk of side effects.

“At the CFB, we have cutting-edge technologies and highly qualified teams at our disposal to give patients the best possible chance of recovery. Today, we want to go even further in supporting patients and enabling them to enjoy a better care experience, during and after radiotherapy treatment,” asserts Professor Vogin, General and Medical Director of the CFB.

The practice of DIBH also illustrates a more participative approach to medicine at the CFB, in which caregivers and patients form a real team. *“This approach is based on voluntarism, so that the patient feels involved in her treatment,”* concludes Dr Frédéric.

About Centre François Baclesse

The Centre François Baclesse (CFB) is a nonprofit healthcare establishment that treats patients with curative or palliative radiotherapy indications. It is part of a multidisciplinary oncology context involving all public and private hospitals in Luxembourg and the Greater Region.

The CFB offers patients and their families comprehensive, safe, high-quality care, based on a humane, participatory approach.

The center aims to develop a network of excellence in oncology with other players in Luxembourg and the Greater Region.

It is also committed to cancer research and to training future generations of healthcare professionals.

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