Australian study - bioimpedance most direct diagnostic tool for lymphoedema

A recently published longitudinal study of almost 300 Australian women diagnosed with breast cancer has found bioimpedance spectroscopy (BIS) to be the most direct, accurate and reliable method for assessment and diagnosis of secondary lymphoedema.1

Principal researcher for the study conducted by the Queensland University of Technology, Dr Sandra Hayes, said the study examined how the choice of measure influences diagnosis, prevalence and identifiable risk factors in developing lymphoedema secondary to breast cancer.

"BIS is a direct measure of extracellular, fluid and therefore lymphoedema. Other common diagnostic methods, such as circumferences or water displacement, assess limb size rather than fluid and changes in size may not always be causally related to lymphoedema."

The study, published in international lymphoedema journal *Lymphology* in March, is one of the first Australian studies to compare the diagnostic effectiveness of BIS in Australian women suffering from lymphoedema and compared BIS with indirect diagnostic methods sum of arm circumference and self-examination.

"The problem with other diagnostic methods is that the medical practitioner does not know that lymphoedema exists until it manifests visible symptoms."

According to Dr Hayes, with twenty per cent (2,500) of the 11,000 Australian women diagnosed with breast cancer each year developing secondary lymphoedema, early diagnosis is a critical first step in the process of developing an effective treatment regime for lymphoedema sufferers.

"With 70 to 80 per cent of women who develop lymphoedema after breast cancer presenting within the first 12 months, we need to know how to diagnose and assess effectively in order to be able to intervene in a timely manner with the most appropriate treatment regime."

ImpediMed CEO Greg Brown says the QUT study reinforced recent findings of the US National Institutes of Health, National Naval Medical Center, George Mason University Study,2 which found preoperative assessment of breast cancer patients for subclinical lymphoedema enables clinicians to establish a baseline serving to enable the early diagnosis and successful treatment of the debilitating condition.

"With more and more people surviving cancer, emphasis will increasingly be focused on quality of life for cancer survivors."
In highlighting this changing dynamic, Mr Brown referred to a statement made by the European CanCer Organisation (ECCO) last week in which ECCO pointed out that cancer survivors are living “in limbo” with unmet needs for care.\(^3\)

“One of the gaps existing in patient care for cancer survivors recognised by ECCO was in relation to the symptoms experienced by lymphoedema sufferers, especially chronic swelling caused by the failure of lymph glands to drain properly and psychosocial problems including depression and anxiety.

“What this emphasises is the need for health care professionals to be alert to the signs and symptoms of secondary lymphoedema. In line with the shift in treatment paradigm to early diagnosis early intervention, it is becoming increasingly clear from studies being conducted around the world and here in Australia that bioimpedance spectroscopy technology is emerging as the most accurate and reliable method for the early diagnosis of lymphoedema,” Mr Brown said.

It should be noted that the National Breast and Ovarian Cancer Centre also acknowledges that early diagnosis and treatment of lymphoedema appears to be an important factor in the success of treatment in its recommendations reviewing research evidence on secondary lymphoedema.\(^4\)

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2. National Institutes of Health, National Naval Medical Center, George Mason University Study Published in Cancer demonstrates the importance of physicians’ shift to baseline measures and ongoing ‘Surveillance’ Model for the successful management of common, debilitating condition: http://www3.interscience.wiley.com/cgi-bin/abstract/118821880/ABSTRACT).


• About ImpediMed Limited:

ImpediMed’s primary product range consists of a number of medical devices that enable the early detection and monitoring of secondary lymphoedema in cancer survivors before the onset of symptoms that are detectable using the most commonly used clinical technique.

ImpediMed has the only medical device with an FDA clearance in the United States for the clinical assessment by Health Care Providers of secondary lymphoedema in the arm.

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