Epidemiological Data of Lymphedema in Lymphoscintigraphy of the Lower Extremities

Lymphedema is a clinical condition in which an accumulation of macromolecules and fluids occurs in the interstitial space. Lymphoscintigraphy is the most specific examination in the diagnosis of lymphedema as it provides functional and anatomical information of the lymphatic system. In addition to the functional lymphatic features used to confirm clinical suspicion, possible sites of lymphatic malformations and neoplasias are also identified.\(^1,2\) The objective of this study was to correlate findings on images obtained in a scintigraphy chamber using a specific lymphoscintigraphy protocol for lymphedema with epidemiological data of patients treated in a teaching hospital.

The diagnostic results of lymphoscintigraphy of patients with leg lymphedema between 2006 and 2016 were correlated with epidemiological data including gender, age, schooling, affected limb dominance, and socioeconomic level in a cross-sectional epidemiological study. Data were reported using descriptive statistics and frequency of events. Fisher’s exact test was used for the statistical analysis, with an alpha error of 5% \((P < 0.05)\) being considered statistically significant.

A total of 430 patients were analyzed, 320 (74.42%) of which were female and 110 (25.58%) were male. The lymphoscintigraphy results were positive in 199 (46.27%) cases and negative in 231 (53.73%). Most \((n = 183\%–91.95\%)\) of the 199 test results found positive for lymphedema were of female patients \((P < 0.001)\).

The age of the patients ranged from 10 to 90 years \((mean: 48 years)\). Predominantly, the patients were female \((P < 0.001)\), with little schooling \((P < 0.0001)\), Figure 1, and low wages \((P < 0.0001)\), Figure 2. Lymphedema occurred significantly more \((P < 0.01)\) than the right leg \((32.66\%)\) or bilaterally \((23.63\%)\). Lymphoscintigraphy allows the identification of changes in the anatomy of vessels and lymph nodes; however, it does not always define the diagnosis.

In the present study, the association of clinical data with lymphoscintigraphy provided a more precise definition. As lymphedema is characterized as a clinical manifestation that may be absent in the contralateral limb, the lymphatic alterations that are detected by lymphoscintigraphy in this limb should not be ignored. Thus, lymphoscintigraphy provides a more accurate diagnosis of the contralateral limb. This situation demonstrates the need to categorize alterations found in the limb not affected by the disease as a disorder of the lymphatic system and not as lymphedema.

These data reinforce the importance of lymphoscintigraphy as a diagnostic method to identify this clinical condition early and during the clinical management of patients. It is a safe and fast method with low radiation and presents few complications. It offers reliable images of the lymphatic system including the lymph nodes, and the examination can be easily repeated as necessary. In relation to the complementary examinations, volumetry by water plethysmography, the gold standard with a precision of between 0.7% and 1.3%, measurement of the limbs circumference and bioimpedance are another simple, inexpensive method of measures.\(^3\)

Lymphedema is a public health problem that mostly affects women and individuals with lower socioeconomic and cultural conditions and little schooling. Although just one leg is more commonly affected, the occurrence of bilateral lymphedema is frequent. Lymphoscintigraphy is useful in defining the diagnosis in cases of doubt.

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Conflicts of interest
There are no conflicts of interest.
Letter to the Editor

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