Characterizing Axillary Lymph Nodes

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Purpose: A literature search showed that though abnormal lymph nodes were well described, there was not good data on the range of appearances of normal lymph nodes. If normal lymph nodes were well characterized, then abnormal lymph nodes would be easier to detect. Characterizing normal/benign axillary lymph nodes will help distinguish between malignant and benign lymph nodes. Procedure: The study was a retrospective review of breast ultrasounds already performed at a community hospital. The study was obtained under HIPPA process utilizing an anonymized data to protect patient identities. PACs display of ultrasound images was performed with medical grade PACs monitors. Totals of 157 lymph nodes were evaluated in 100 patients. Lymph nodes were measured by length, width and height. Lymph Node character by Stavros criteria was recorded. Patient age, weight, height, BMI, and cancer history were recorded and calculated. Data: All data was entered and graphed in an Excel Spreadsheet. Conclusions: This study was designed to look at the range of normal axillary lymph nodes. 3 zone lymph nodes were correlated with increasing age and weight, and lymph nodes size (length &volume).These were statistically significant. In medical literature, 3 zone lymph nodes are not well described, and a lymph node size over 1 cm has been used in the past as a criterion for a malignant feature. This study shows that normal lymph nodes can be small, or they can be quite large. In fact, the larger lymph nodes are of 3 zone character. Application of Research: Detecting early lymph node involvement and more accurate and effective staging of breast cancer. Also detection and differentiation of other disease processes such as infection, inflammation, or other neoplastic conditions such as lymphoma.

Awards Won: