References

Breastcancer.org. (2020, September 21). *Non-invasive or invasive breast cancer.*

https://www.breastcancer.org/symptoms/diagnosis/invasive?gclid=CjwKCAjwzaSLBhBJEiwAJSRokjGtILxaYJ3lgbwlm1Hv142Nd-S3hRf2HDjnu50X\_c4\_ZsY2\_wG3ixoCDXAQAvD\_BwE

This article explains the differences between non-invasive and invasive breast cancers. Brief definitions of many common and uncommon types of breast cancer are included. Invasive mammary breast cancer is defined and explained in the article.

Breastcancer.org is a nonprofit organization that provides information and community for those impacted by breast cancer. The author provides information in the article in a way that the average person can understand. Although the article provides basic information, the information in the article is not descriptive. Therefore, the article will be used supplementally for this research for basic facts on breast cancers.

Fabiano, V., Mando, P., Rizzo, M., Ponce, C., Colo, F., Loza, M., Loza, J., Amat, M., Mysler,

D., Costanzo, M. V., Nervo, A., Nadal, J., Perazzo, F., & Chacon, R. (2020). Breast cancer in young women presents with more aggressive pathologic characteristics: Retrospective analysis from an Argentine national database. *JCO Global Oncology, 72*, 639-646. doi: 10.1200/JGO.19.00228

This research article presents a retrospective study conducted in Argentina on breast cancer in young women. The study collected data of women under 40 years of age at time of diagnosis. Young women were defined as women less than 40 years old and very young women were less than 35 years old. The study found that breast cancer in young women is often more aggressive and leads to poor prognosis for the patient.

The authors present a lot of quality data to support the claims made in the article. The information in the article is presented in a logical manner and is fairly easy to comprehend. Because the study is conducted in Argentina, a limitation of the study is that diagnosis and treatment of breast cancer are not as advanced as here in the United States.

Johns Hopkins Medicine. (n.d.). *Invasive mammary carcinoma (IMC).*

https://www.hopkinsmedicine.org/breast\_center/breast\_cancers\_other\_conditions/invasive\_mammary\_carcinoma.html

The article gives a definition of invasive mammary carcinoma. Brief explanations of diagnosis, treatment, and prognosis of invasive mammary carcinoma are given in the article.

Johns Hopkins Medicine is a world-renowned medical facility. The article is easily accessible through a google search. The information in the article is easy for the general public to understand. The article does not go into great detail, it only offers simple explanations. Therefore, the article will be used for the soul purpose of definitions in this research project.

Langman, E. L., Kuzmiak, C. M., Brader, R., Thomas, S.M., Alexander, S. L., Lee, S. S., &

Jordan, S. G. (2021). Breast cancer in young women: Imaging and clinical course. *The Breast Journal, 27*(8), 657-663. doi: https://doi-org.misericordia.idm.oclc.org/10.1111/tbj.14261

The study of women under the age of 40 with invasive breast cancer was done in order to characterize imaging findings in context to pathology and clinical course. Patient demographics, imaging pathology, and clinical data were collected from the participants of the study. New information presented in the study is that breast cancer in young women often presents as a multifocal or multicentric disease with malignant calcifications on mammographic images.

The authors of the article do a great job of presenting the information in a logical manner. There is a lot of great information that can be gathered from this study. However, a limitation of the study is the sample size of only 110 participants.

Long, B. W., Rollins, J., & Smith, B. J. (2016). Merrill's atlas of radiographic positioning &

procedures (14th ed.). Elsevier.

This book gives in depth descriptions of radiographic positioning as well as descriptions of imaging modalities including mammography. The history of mammography as well as mammography equipment, digital breast tomosynthesis, breast anatomy and pathology are just some of the areas included in the book.

This book gives a great overview of mammography and its use for detection of breast cancer. It gives great in-depth information on a variety of topics related to mammography. Although it does not define invasive mammary carcinoma, information can still be used towards the research project.

Shaw, G. (n.d.). *Types of breast cancer.* WebMD. https://www.webmd.com/breast-cancer/breast-

cancer-types-er-positive-her2-positive#2-4-1

This article is an overview of different types of breast cancer. Hormone receptor positive cancer is defined as well as the different types including ER/ PR positive, HER2 positive, and triple negative breast cancers. Treatments for each type of cancer are provided.

This article provided definitions and statistics on types of breast cancer. It helped to provide a more detailed explanation when defining ER-positive, and triple negative breast cancers.

Thomas P. Saxton Medical Pavilion. (2021). Patient x-ray report: MR # 499709 [Report].

This case study is of a 34-year-old patient that presented to the mammography department with a palpable right breast lump measuring 1.9 cm in size. Bilateral mammogram was followed by complete bilateral ultrasound which determined the mass to be highly suspicious. The mass was biopsied under ultrasound guidance and the pathology determined it to be invasive mammary carcinoma. The patient had no family history of breast cancer.

This case study provides mammographic images, imaging reports from both mammogram and ultrasound, as well as pathology reports on a young female patient with invasive mammary carcinoma. A limitation of this case study is that the patient decided to seek treatment outside of the facility.