**Predictors of outcomes (immediate post-op course (re-operation, total cumulative length of stay, number of hospital visits, proven wound infections, and disease-free survival) of patients undergoing mastectomy with or without various types of implant reconstruction (2017-22)**

***Abstract*:**

***Background:***

Post-mastectomy breast reconstruction rates are steadily rising due to a variety of reasons such as increasing awareness and progressions in health technology.1 However, there is a lack of randomised evidence to support the merits of reconstruction and there is increasing literature on the potential complications associated with it, such as increased rates of infection and recurrence.2 Therefore, this study aimed to assess and evaluate the relationship between predictors, such as the presence of co-morbidities, and outcomes within patients who had undergone mastectomy with or without implant reconstruction.

***Method:***

A team of four members retrospectively collected data on known breast cancer surgery patients within the RFH from 2017 through to 2022. We collected multiple metrics including both predictors and outcomes. Certain metrics were already compiled within the original patient database such as age, ethnicity and date of diagnosis.

The predictors included: diabetes mellitus status, smoker status, heart disease, tumour size, tumour type, receptor statuses, positive lymph nodes, lympho-vascular invasion, neoadjuvant/adjuvant chemotherapy and endocrine therapy, radiotherapy, and operation dates.

The outcomes included: breast, donor and wound complications, treatment dates, recurrence dates and number of hospital visits.

Statistical software ‘STATA’ and Excel were used to analyse the data and tabulate the metrics. This allowed us to observe the different proportions and calculate $χ^{2}$ values for appropriate data.

***Results:***

Seventy-five patients who underwent mastectomy were included in the study; patients who had other forms of breast surgery and those who had autologous reconstruction were excluded. 33.33% of patients with diabetes mellitus (DM) faced serious complications. 34.78% of patients that received implant reconstruction also faced higher serious complication rates.

56.52% of patients with implant reconstruction, 70.00% of smokers and 57.58% of patients younger than sixty all visited the hospital more frequently within three months of surgery.

Implant reconstruction led to increased complication level and number of visits independent of smoker status. However, implant reconstruction led to more hospital visits within three months after surgery in those over the age of 60, compared to those under 60, and in those who had neoadjuvant chemotherapy, as opposed to those who did not.

Patients who had neoadjuvant chemotherapy had more distant disease-free survival events; $χ^{2}$ = 0.017.

***Conclusion:***

Links were drawn between predictors and outcomes within this investigation which can be used to shape future surgical practice and improve patient prognosis, provided further investigation is conducted.