

APPENDIX B: RESULT OF KAPLAN MEIER ANALYSIS

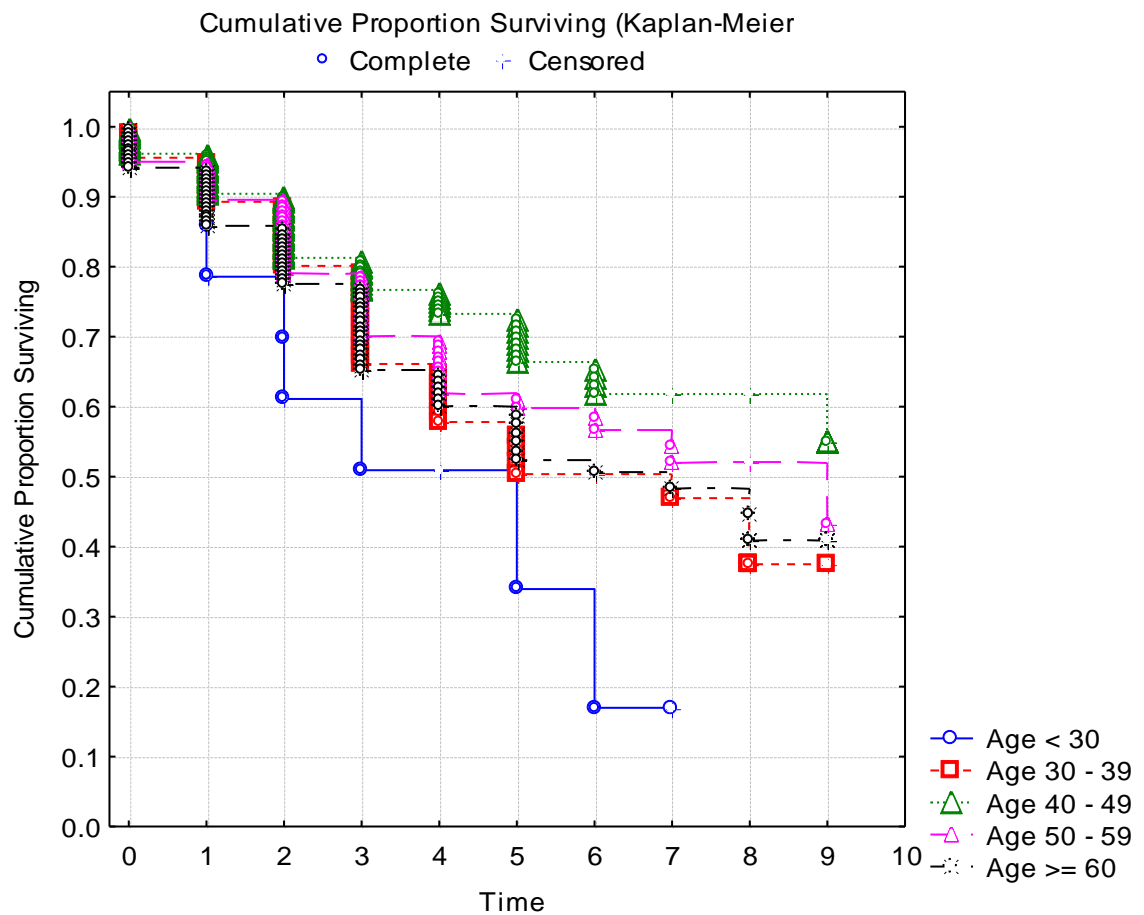


Figure B1: Kaplan-Meier Analysis by Age

The range of patients age seen in UMMC hospital is from 25–83 years. The higher percentage of age is among women of 40-49 years (34.63%). Figure B1, indicates a better survival rate among women of 40-49 years than women aged below 30 years. Although there is generally a better survival rate for women among 40-49, the result was not highly significant ($p = 0.078$). Numerous studies have reported that chances of survival generally diminished with the increase of age (La Rosa et al., 1996; Byrne et al., 1994; Bergman et al., 1991), however influence of age became significantly depends on the TNM staging (Callies et al., 1997).

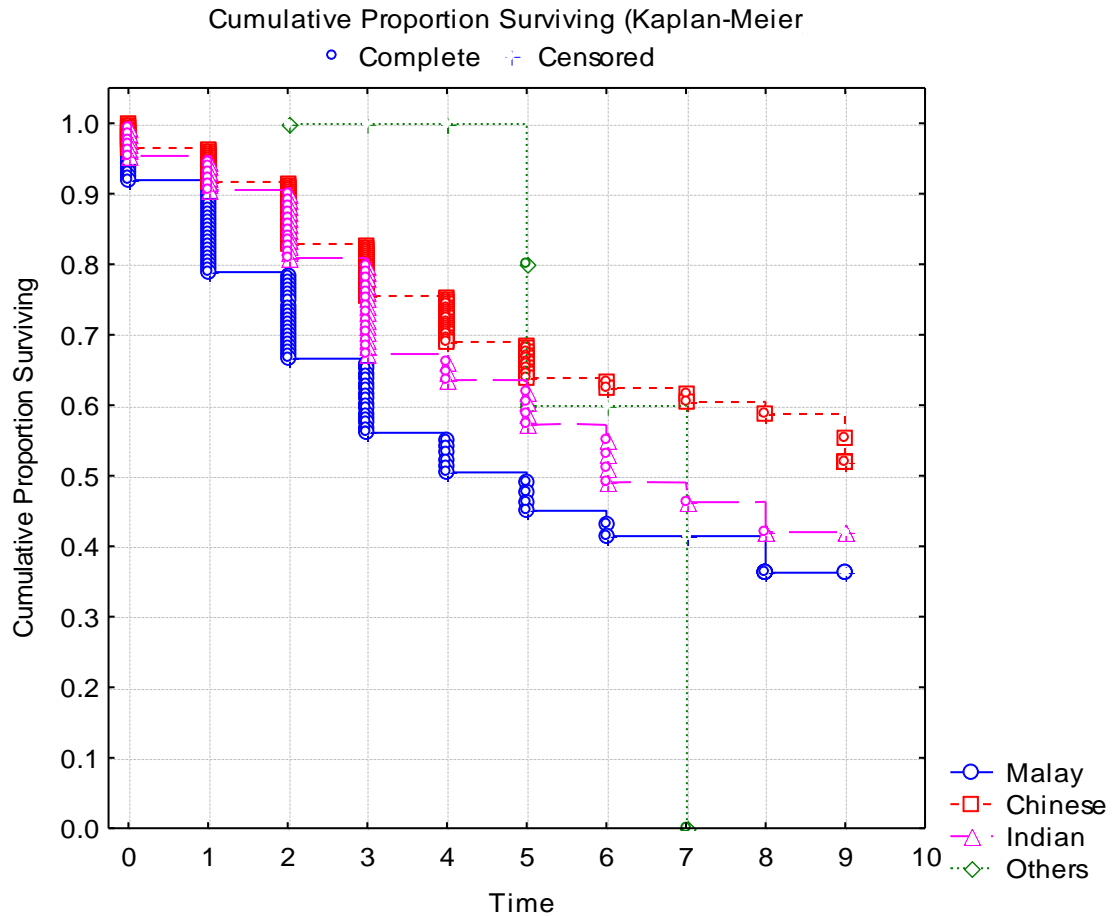


Figure B2: Kaplan-Meier Analysis by Race

The highest group of patients diagnosed at UMMC is Chinese women (61.37 %), where it was more than two times the number of patients as the Malay women (21.91%) and Indian women (15.31%) group. Reported from NCR 2002, the incidence between races for Malay women is 1 in 24 lifetime risk, Chinese women is 1 in 14 lifetime risk and Indian women is 1 in 15 lifetime risk. Further studies on the low incidence in Malay women compared to the Chinese and Indian are being done. Figure B2 indicate survival rate among race of patients diagnosed at UMMC. The probability of surviving by race with the percentage probability of surviving at five years for Chinese is 69 percent, Indian is 64 percent and Malay is 50 percent. Although, the survival rate between the three races is significant ($p < 0.005$), there has been no published report by the NCR in 2002 on the survival difference between the three racial groups. Subsequent

reports to determine whether there are any survival differences between the three racial groups in Malaysia are yet to be done (Yip et al., 2002).

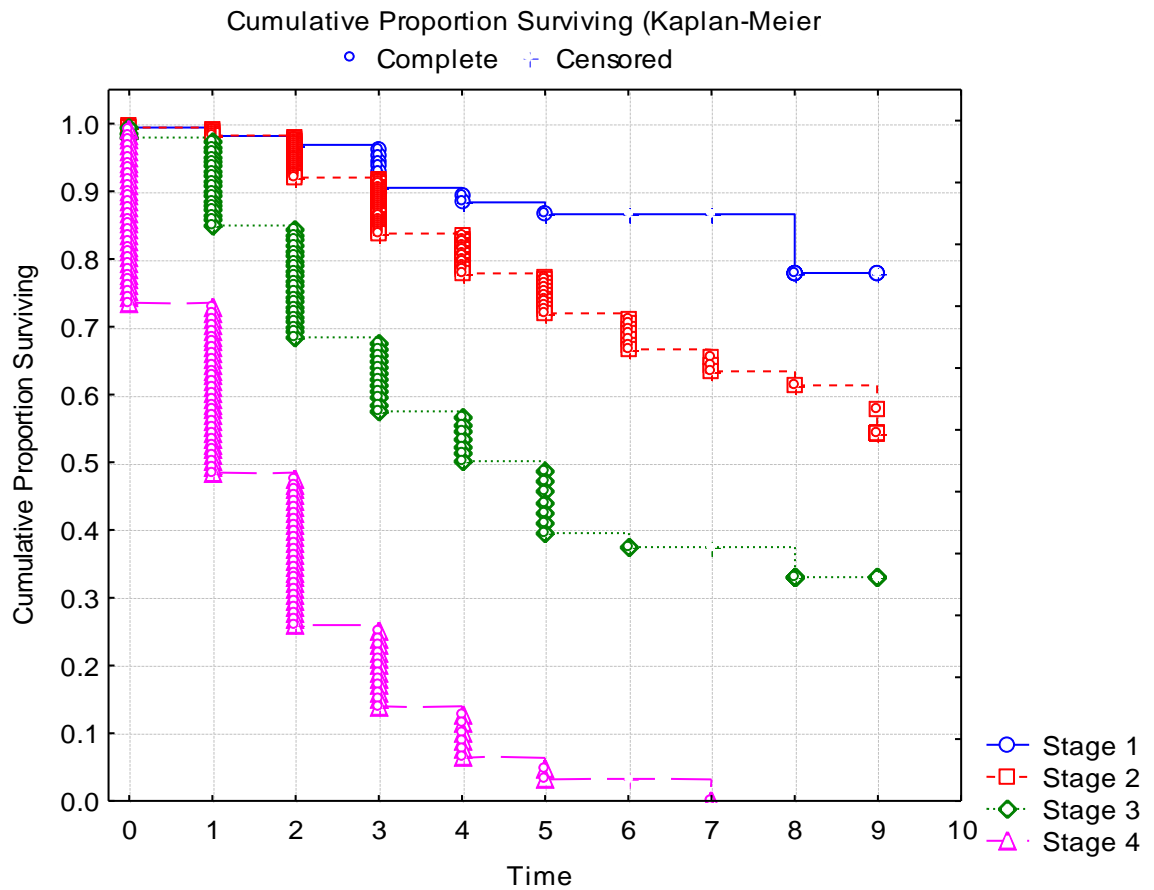


Figure B3: Kaplan-Meier Analysis by Stage

Stage at diagnosis has frequently been found to be the most important factor in predicting survival (Neale, Tilley & Vernon, 1986). Figure B3 shows the probability of surviving by stage with the percentage probability of surviving at five years for Stage I is 88 percent, Stage II is 79 percent, Stage III is 50 percent (agree with the findings reported by Byrne et al. 1994) and Stage IV had a poorest survival rate at seven percent only. The survival rate between stages is significant ($p < 0.005$). The majority of women with breast cancer presented with stage II (48.53%).

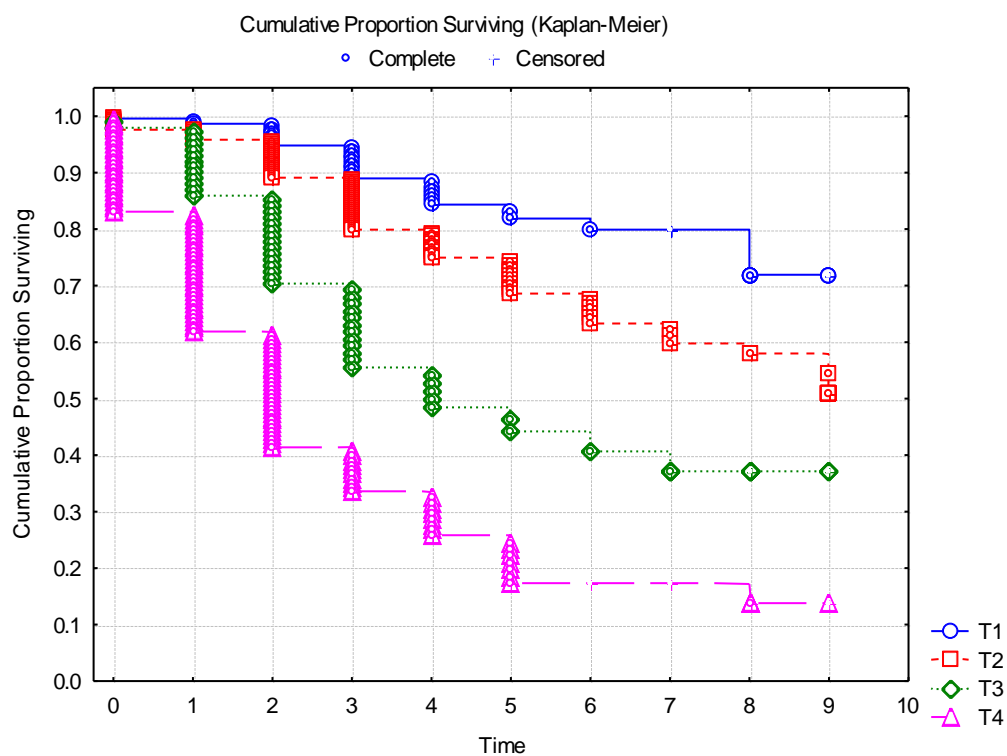


Figure B4: Kaplan-Meier Analysis by Tumor

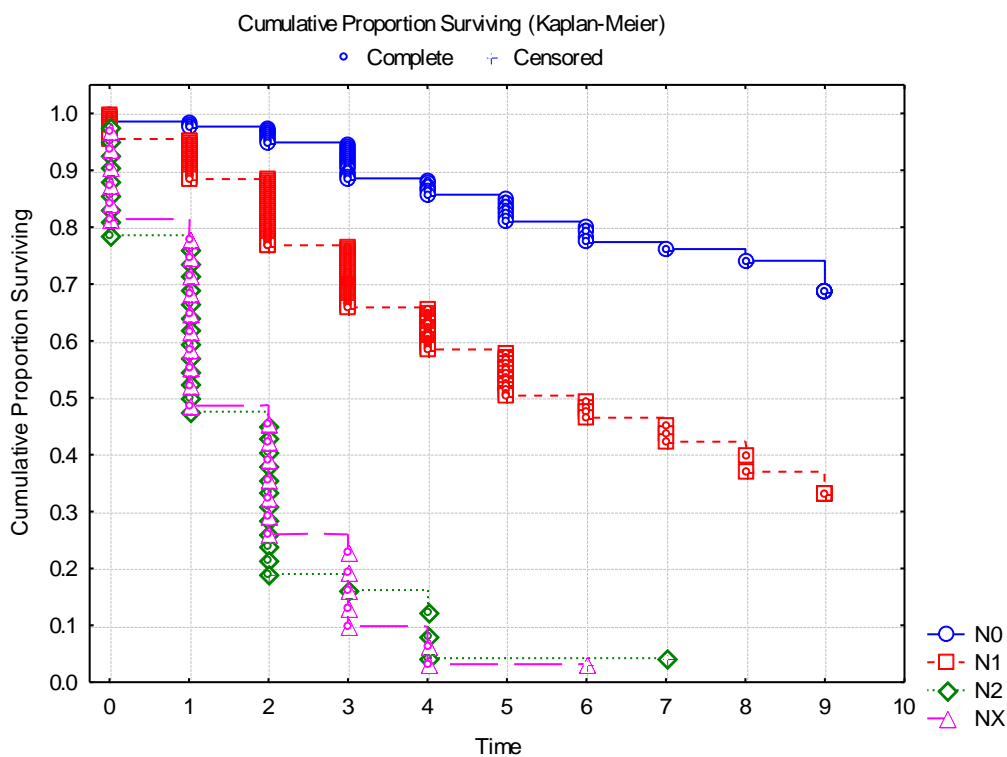


Figure B5: Kaplan-Meier Analysis by Lymph Node

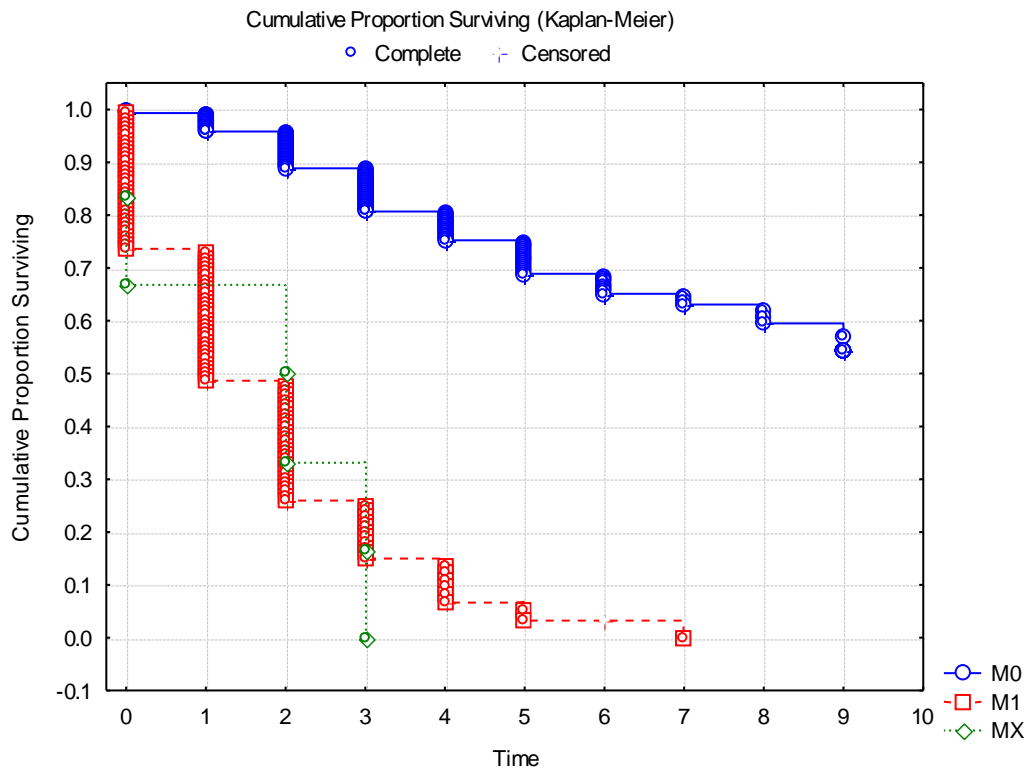


Figure B6: Kaplan-Meier Analysis by Metastasis

Figure B4, B5 and B6 shows the probability of survival by Tumor (T), Lymph Node (N) and Metastasis (M). Tumor size is one of the prognostic indicators most consistently associated with survival (Collan et al., 1998; Joensuu et al., 1999). In Figure B4, patients with T₄ had a lower survival time than those with T₁ ($p < 0.005$). Patients with T₁ cancers had 84 percent probability of surviving in the first five years, while T₄ only had a 26 percent probability of surviving in the same period. Figure B5 shows better survival for N₀ patients as compared to N₂ patients ($p < 0.005$). The N_x represents the regional lymph nodes which cannot be accurately assessed. Distant Metastasis involved is the main indicator of survivability of patients as shown in Figure B6 (Callies et al., 1997; Rudan et al., 1994; Feldman et al., 1983). Survival for patients with distant metastasis had six percent probability in five years compared to the patients without distant metastasis, which experience 77 percent probability of surviving the disease.

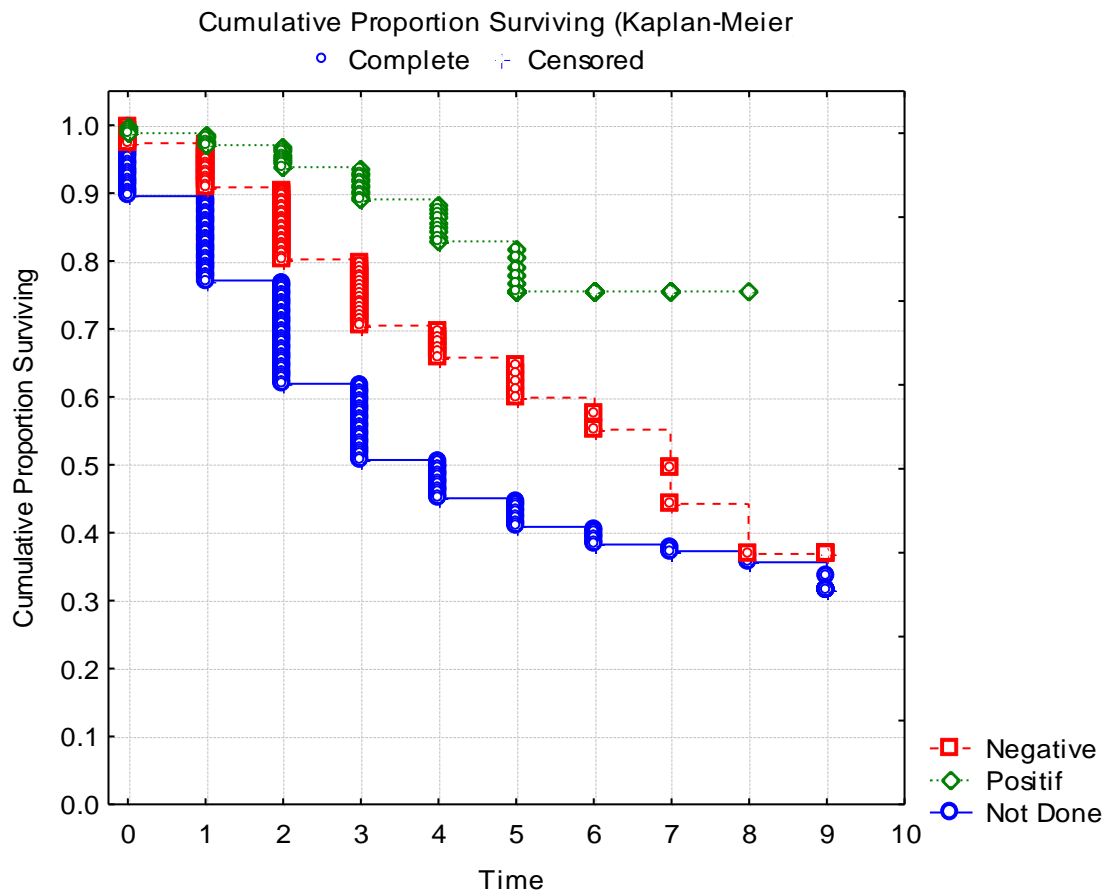


Figure B7: Kaplan-Meier Analysis by Estrogen

The percentage probability of surviving at five years for positive estrogen receptor (ER) is 83 percent while those with negative estrogen receptor is 67 percent as shown in Figure B7. Studies by Hilakivi et al. (2002) showed that estrogens can increase, decrease, or have no effect on breast cancer risk, depending on the time of estrogen exposure. There are mixed results in efforts to determine if the estrogen receptor status has a substantial effect on survival (Cheryl et al., 2000). Studies by Bonnier et al. (1995) and Saxe et al. (1999), revealed that ER status was a significant predictor of survival, however studies by Murr et al.(1998), Haffty et al. (1994) and Rudan et al. (1994), ER was not associated with survival. In postmenopausal patients, ER status was not a predictor of long-term survival (Quiet et al., 1995).

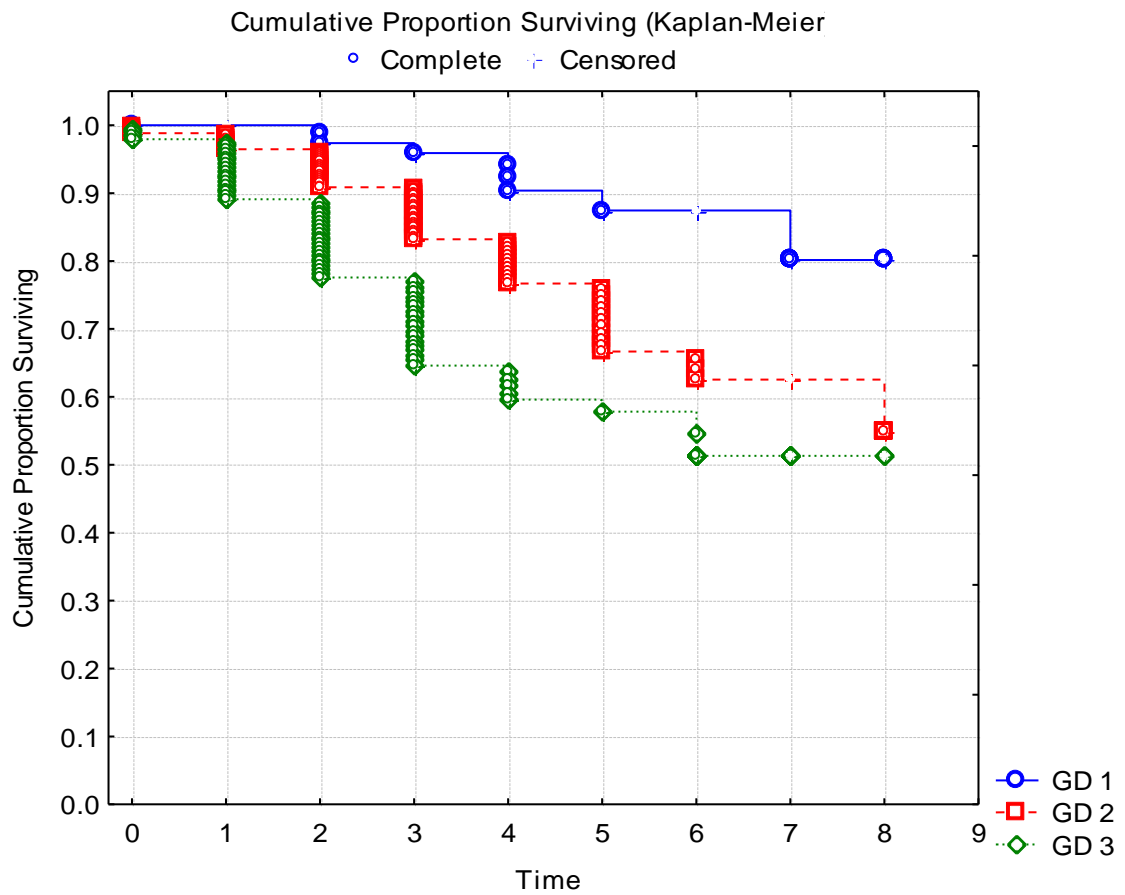


Figure B8: Kaplan-Meier Analysis by Grade

Grade is associated with prognostic indicators as shown in Figure B8. The five years probability of survival shows that patients with Grade 1 have 88 percent chance of survival, Grade 2 has 77 percent and Grade 3 has 59 percent chance of survival. The survival rate between grades is significant ($p < 0.005$) and should be utilised as a standard benchmark for all cases (Rudan et al., 1994; Byrne et al., 1994; Bonnier et al., 1995).

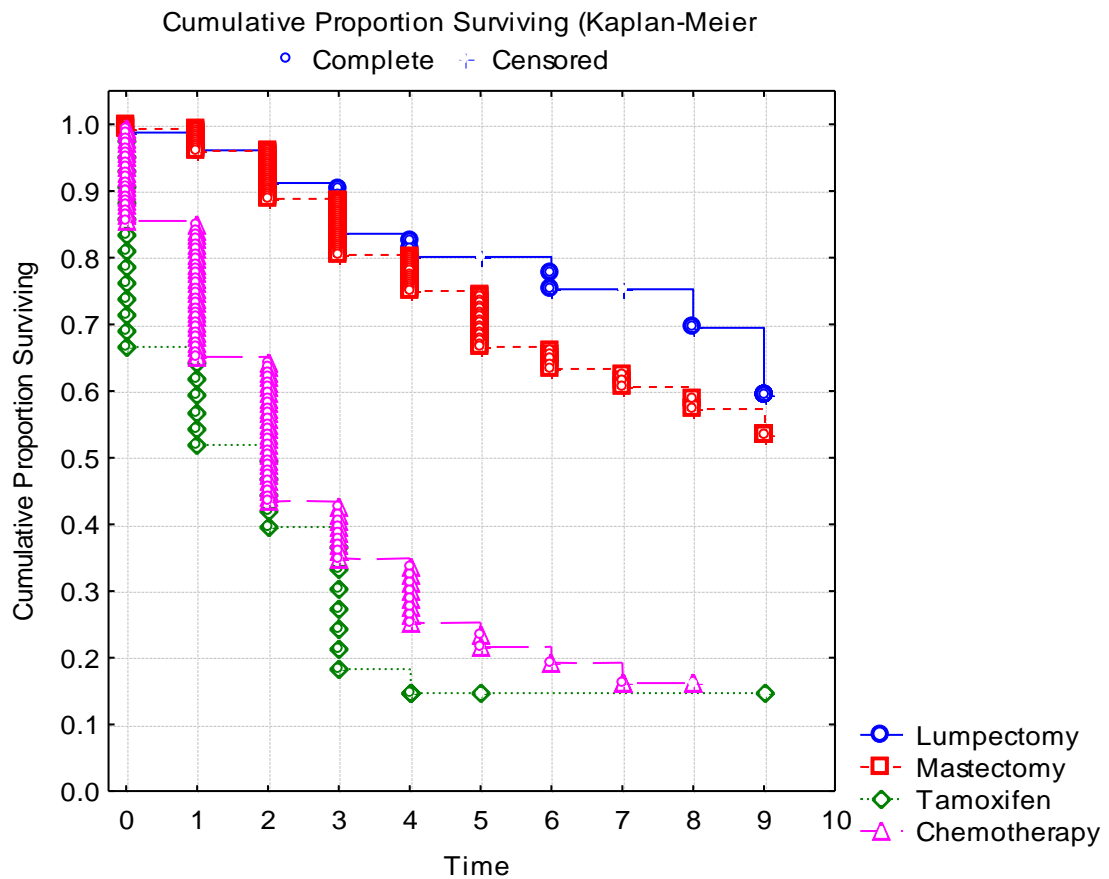


Figure B9: Kaplan-Meier Analysis by Primary Treatment

Figure B9 indicates the probability of survival by primary treatment taken by the patients at UMMC. The five years probability of survival shows that those who underwent lumpectomy treatment has 80 percent chance of survival, 77 percent for mastectomy, 24 percent for chemotherapy and 15 percent for tamoxifen. There are 59.72 percent patients at UMMC who took Mastectomy as their primary treatment. Lumpectomy and Mastectomy were recently used more often as primary treatments, while Chemotherapy were added to increase the effectiveness of primary therapies or when the cancer is localized to one site (Cheryl et al., 2000). Tamoxifen therapy was shown to significantly decrease the survival rate for patients aged 70 and older (Muss, 1994; Horobin et al., 1991).

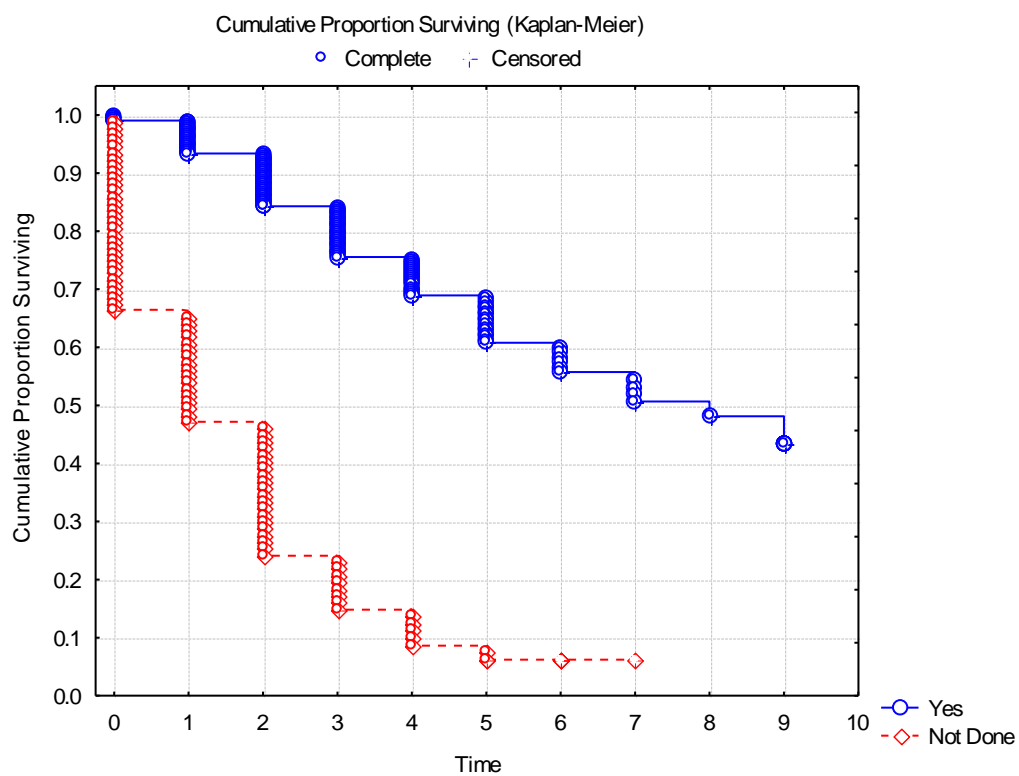


Figure B10: Kaplan-Meier Analysis by Adjuvant Chemotherapy

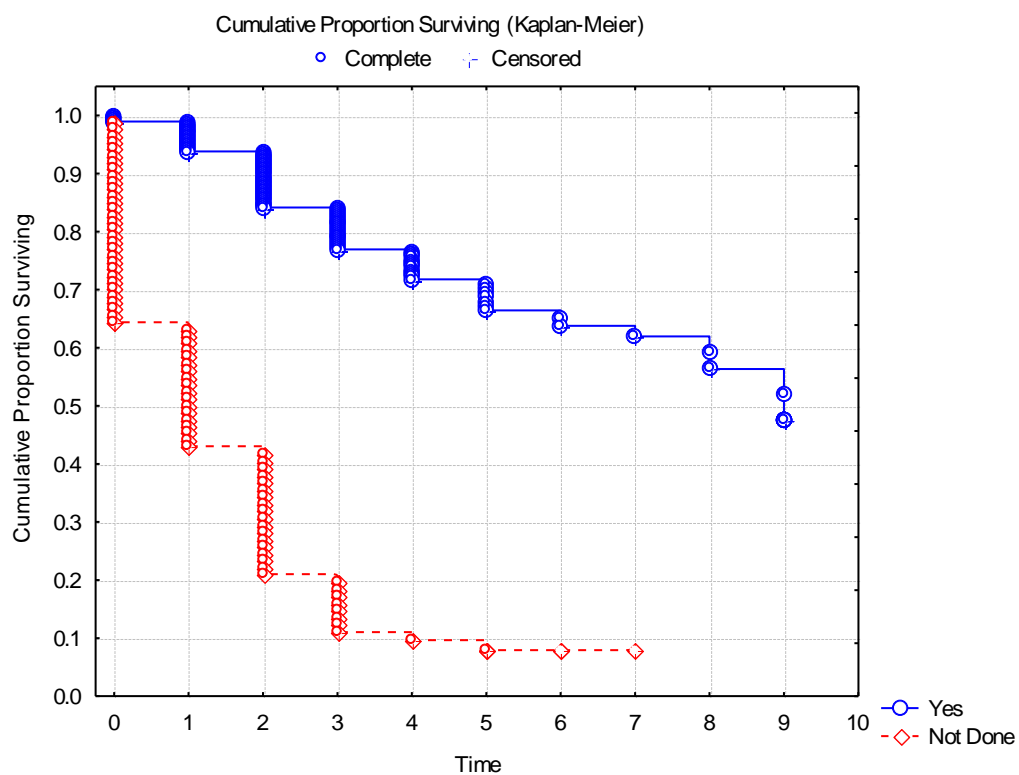


Figure B11: Kaplan-Meier Analysis by Adjuvant Radiotherapy

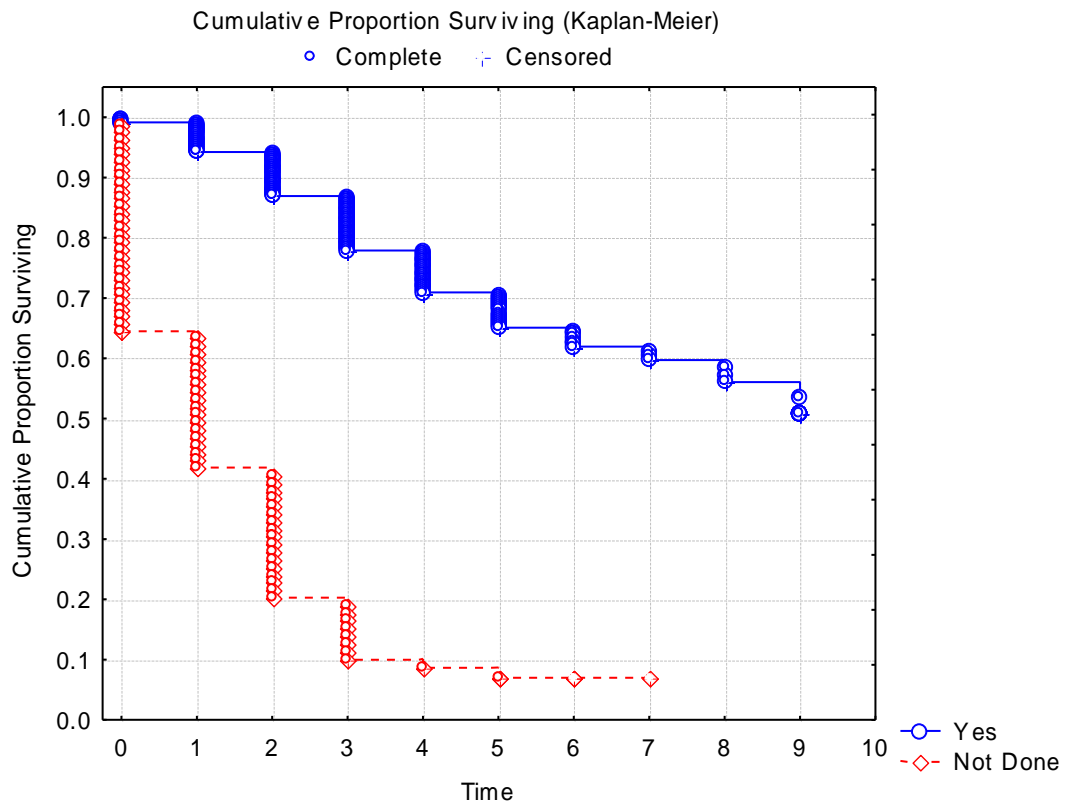


Figure B12: Kaplan-Meier Analysis by Adjuvant Tamoxifen

Figure B10, B11 and B12 show the probability of surviving for Adjuvant Therapy. The result shows that patients who did not undergo adjuvant therapy had a very low survival rate. Most study indicates that patients who undergo adjuvant therapy improved their survival rate and have lower breast relapse occurrences (Stewart, 1992; Haffty et al., 1994; Diab et al., 1998).