

6.0 DISCUSSION

Disease relapse is one of the fears faced by patients with breast cancer once they completed curative treatment. Data on patterns of relapse and prognosis after relapse are very important and useful when discussing about the long term outcome with the patients.

This study involved 268 patients with the mean age of 50 years (range 26-81 years). The highest incidence was in the Chinese ethnic group followed by Malay and Indian. This is consistent with the third report of the National Cancer Registry on cancer incidence in Peninsular Malaysia 2003-2005.¹

The results showed that of all breast conservation surgery patients, only 81.9% had adjuvant radiotherapy. As a standard, all patients who had breast conservation surgery should have received radiotherapy. However, there were 18.1% of patients who did not receive the treatment. The reasons for this were unclear as they were not documented in the patient case notes apart from a few patients noted to decline radiotherapy. As for mastectomy patients, 67.3% received radiotherapy. Systemic treatment was given to 90.3% of BCS patients and 94.9% of mastectomy patients. These figures are high as compared to the study done by Elder et al. which reported 62.7% of BCS and 70.7% of mastectomy patients receiving systemic treatment.⁴ This may be explained by more patients with higher stage disease in this study who were more likely to require adjuvant systemic treatment. Furthermore, more than half of the study population had ER positive disease and therefore received tamoxifen as part of the systemic treatment. The relapse rate in this study was 27.2% with local, regional and distant relapse rates of 5.5%, 1.9% and 19.8% respectively. Elder et al. reported a lower relapse rate of 18% with local, regional and

distant relapse rates of 4.9%, 1.0% and 11.4% respectively.⁴ The higher relapse rate seen in our patients may be explained by more patients with higher stage disease who were at a higher risk of developing relapse. Stage 3 disease in this study was 29.0% compared to 3.9% from the study by Elder et al.⁴ The most common site of distant relapse was the lung which accounted for 47.2% of cases followed by bone, liver, brain and other sites.

The majority of relapses occurred within the first five years of primary surgery and this result is consistent with most other published data. The highest risk of relapse was between one and two years from surgery (9.7%). After five years, the risk of relapse decreased steadily. The median time interval between the primary breast cancer surgery and the diagnosis of relapse was 29 months. This finding is consistent with other studies which showed that most relapses occur within first five years of surgery.⁴ Thus if patients have not relapsed within five years the likelihood of relapsing thereafter is very small. However, patients with a history of breast cancer suffer excess mortality for more than 30 years after surgical therapy.²⁴

This study showed that stage, axillary node and oestrogen receptor status had statistically significant positive correlation with relapse. This finding is consistent with other studies reported by Elder et al. and Imkampe et al.^{4, 20} In those studies, grade was also found to be correlated with relapse. On the contrary, in this study, the correlation between grade of tumour and relapse was not significant, $r = 0.123$ ($p = 0.07$). This could be due to high proportion of unknown grade (14.3%) in the relapsed cases. In this group of patients, the grading of tumour was not available and the reasons were unclear.

The results showed that disease free interval was an important prognostic factor for breast cancer relapse. Patients who had relapse after 36 months had better survival than those who

relapsed earlier. The difference in survival was statistically significant ($p < 0.001$) and consistent with other studies.⁴

Patients with local relapse had better prognosis compared to regional and distant relapse. The 5-year overall survival for patients with local, regional and distant relapse were 61%, 40% and 21% respectively. The overall survival was higher compared to the study by Elder et al. which quoted 41% for local relapse, 20% for regional and 13% for distant relapse.⁴ There were 11 patients (15.1%) that was lost to follow-up and not contactable and therefore were censored as status unknown. This could be one of the reasons for higher overall survival seen in this study. Another reason could be due to effective treatment delivered to patients with relapse but this needs further studies to confirm. For those with local relapse, about 66% had salvage surgery and they were still alive until the end of the study. This may explain the relatively good overall survival for local relapse.

Bone metastases have been shown to have better prognosis compared to visceral metastases.^{4,20} In this study, 2-year overall survival for bone metastases was 61%, lung metastases was 20% and 0% for those with liver and brain metastases. The reasons for the relatively better prognosis of bone metastases are not clear. An RCT looking at the clinical course of bone metastases for breast cancer reported that bone metastases were more common in receptor positive or well differentiated tumours which generally tend to have a better prognosis. This may explain the relatively better prognosis for bone metastases.