Study Population:

Samples were collected from 686 breast cancer patients with an age range between 21 and yrs old.

Table 1 represents the population

|  |  |  |
| --- | --- | --- |
|  | Range | Median |
| Age | 21-80 | 53 |
| Number of nodes | 1-51 | 3 |
| Size | 3-120 | 25 |
| Grade | 1-3 | 2 |
| Treatment | Tamoxifen (yes-No) |  |

We used R todetermine the effect size of each of the confounding factors (Age and menopause, tumor size, grade and ER and Pr status.

> gbsg.lm <- lm(nodes ~ age\*meno + size + grade + pgr + er + hormon, data = gbsg)

> tidy(gbsg.lm)

term estimate std.error statistic p.value

1 (Intercept) -5.5022563294 2.543707531 -2.1630853 3.088393e-02

2 age 0.0903418081 0.040145678 2.2503496 2.474699e-02

3 menopremenopausal 6.9635169776 3.221348379 2.1616777 3.099280e-02

4 size 0.1237129608 0.013863465 8.9236678 4.187241e-18

5 grade 0.9517508807 0.345891777 2.7515857 6.089427e-03

6 pgr -0.0012556149 0.001071164 -1.1721969 2.415303e-01

7 er -0.0006413509 0.001488757 -0.4307961 6.667538e-01

8 hormonno tamoxifen -0.2093511151 0.428301342 -0.4887940 6.251459e-01

9 age:menopremenopausal -0.1363260408 0.063238967 -2.1557285 3.145658e-02

We found that menopausal status has a big effect on the outcome.