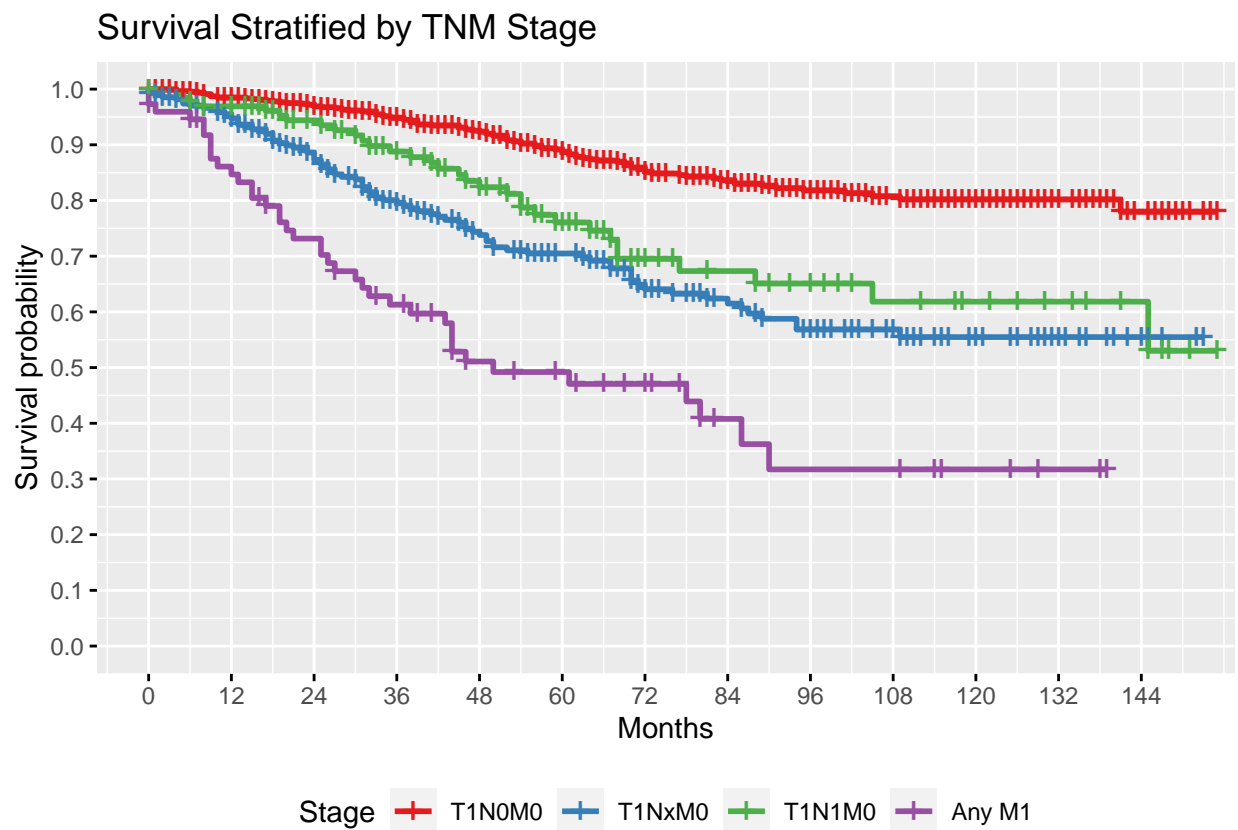


Survival Outcomes of Early-Stage High Grade Serous Ovarian Cancer Using the SEER Cancer Database

Kevin Kremer

10/9/2020

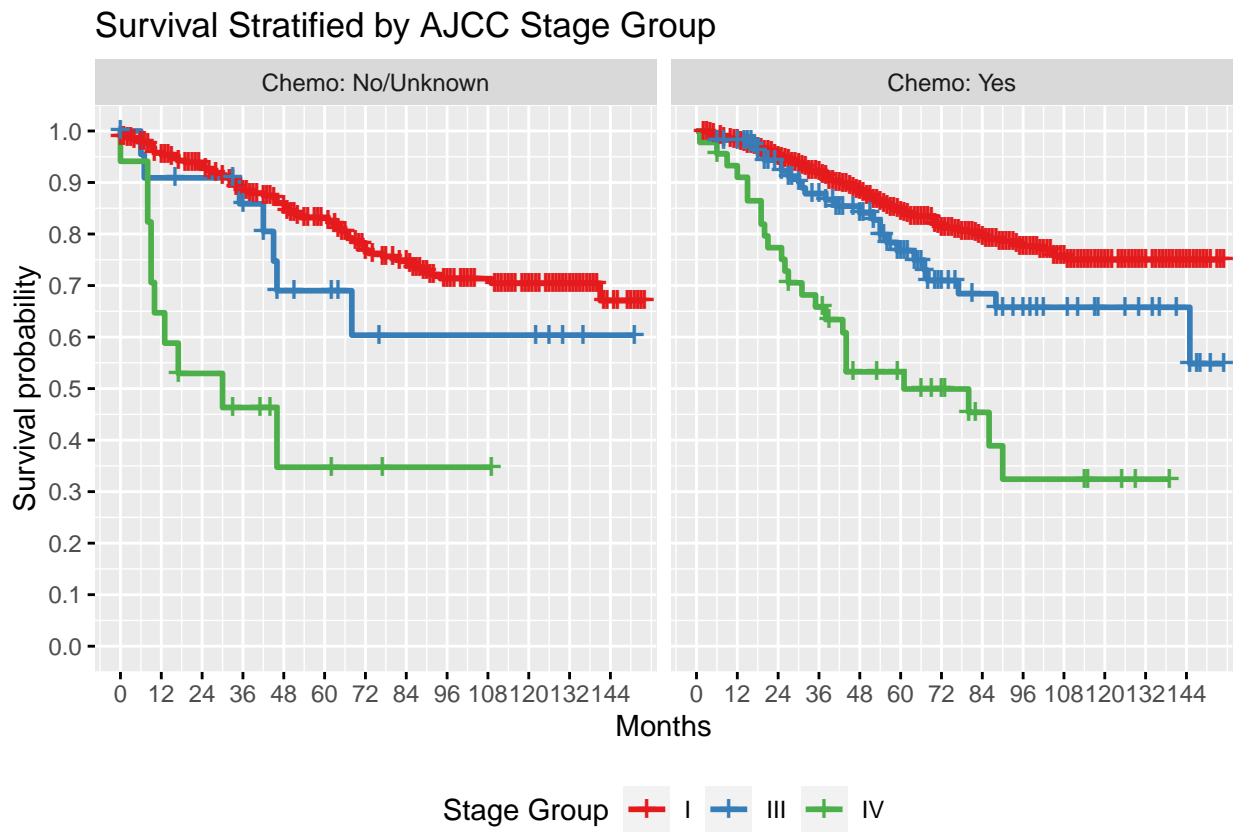
OS based on stage



```
##
## Pairwise comparisons using Log-Rank test
##
## data:  HGS and TNM.Stage
##
##      T1N0M0  T1NxM0  T1N1M0
## T1NxM0 1.2e-13 -      -
## T1N1M0 7.8e-05 0.16627 -
```

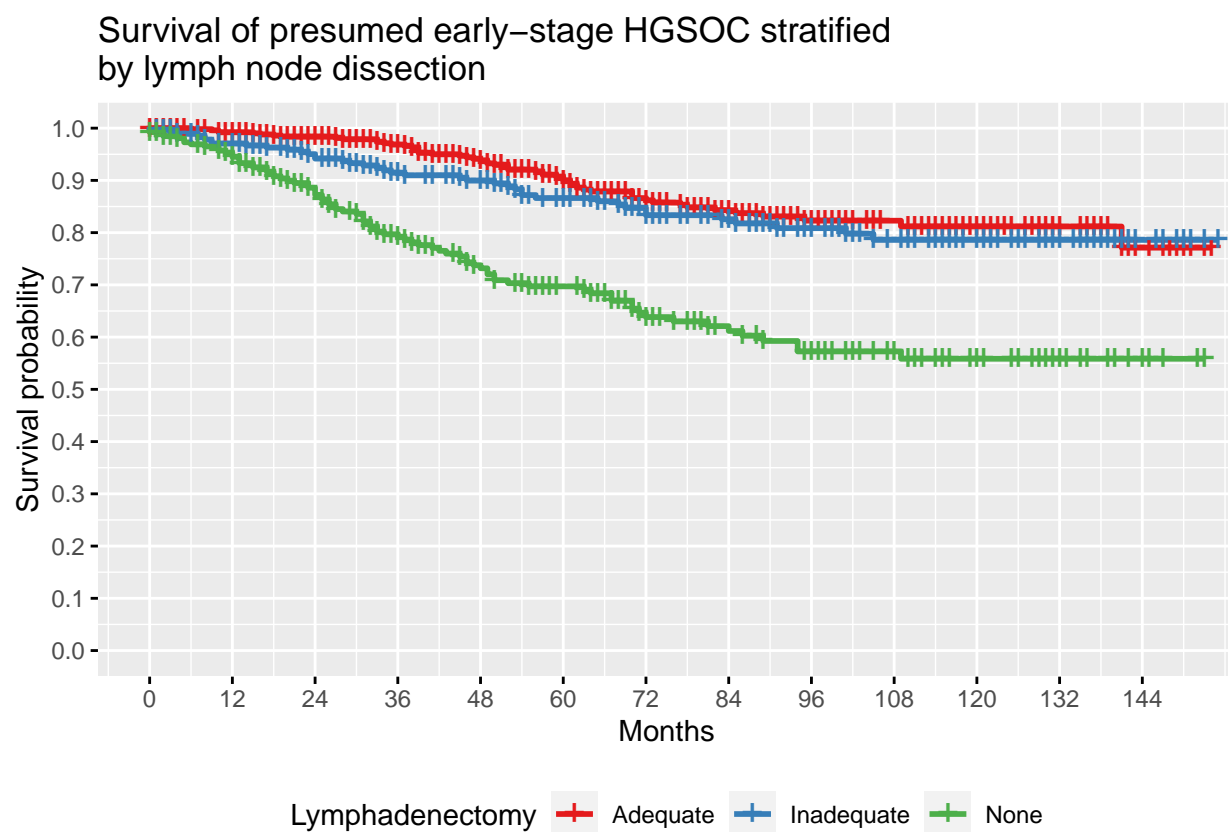
```
## Any M1 < 2e-16 0.00019 1.6e-05
##
## P value adjustment method: BH
```

OS based on Stage group with and without chemotherapy



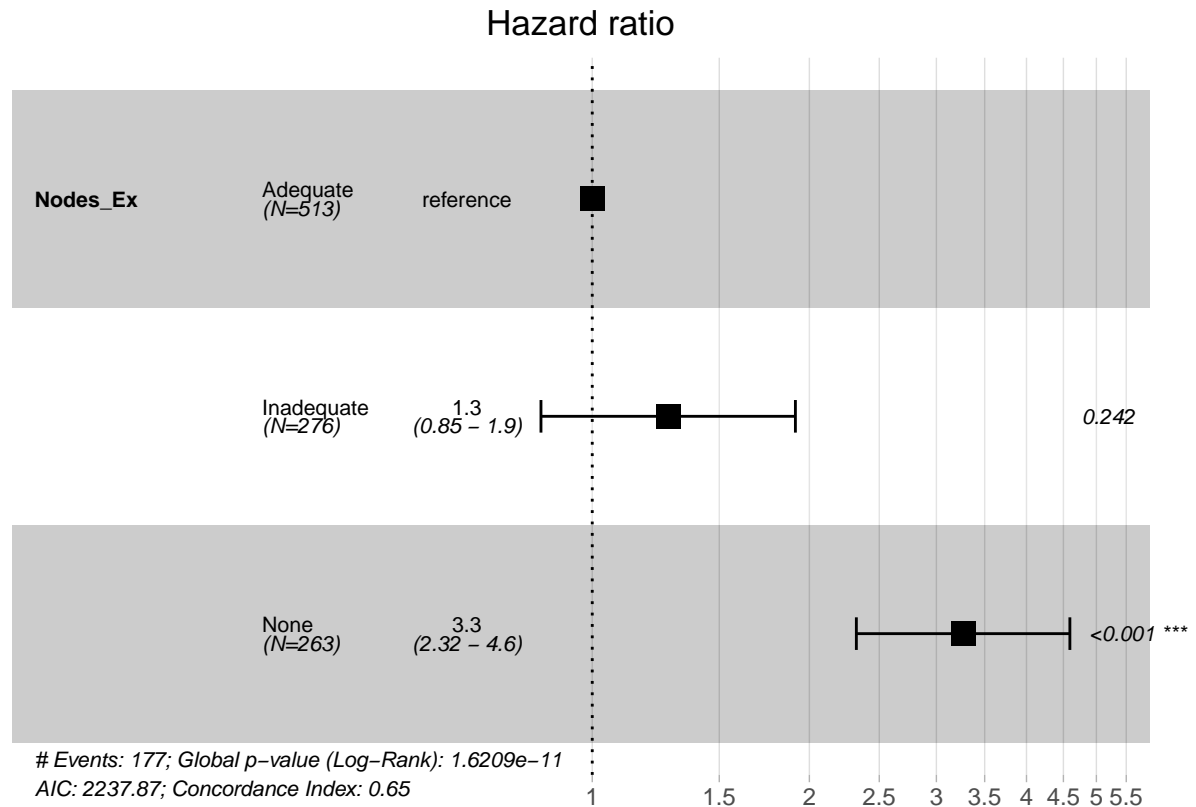
```
##
## Pairwise comparisons using Log-Rank test
##
## data: HGS.SG and Stage_Group_Summ
##
##      I      III
## III 0.021  -
## IV  < 2e-16 1.1e-05
##
## P value adjustment method: BH
```

For presumed early-stage HGSOc, does adequacy of LN evaluation matter?



```
##
## Pairwise comparisons using Log-Rank test
##
## data: HGS.ES and Nodes_Ex
##
##           Adequate Inadequate
## Inadequate 0.26      -
## None      1.4e-12  1.3e-06
##
## P value adjustment method: BH
```

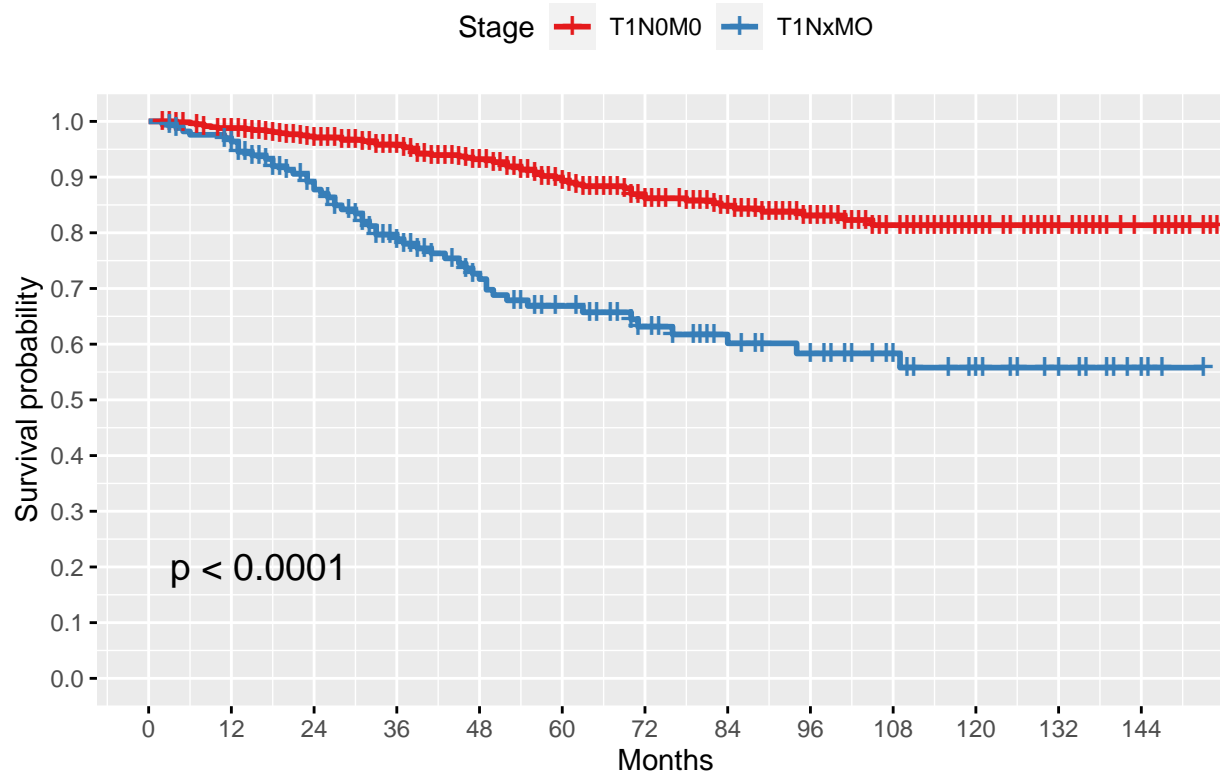
Lymphadenectomy	Count
Adequate	513
Inadequate	276
None	263



```
## Call:
## coxph(formula = Surv(SurvMonths, COD) ~ Nodes_Ex, data = HGS.ES)
##
## n= 1052, number of events= 177
##
##              coef exp(coef) se(coef)      z Pr(>|z|)
## Nodes_ExInadequate 0.2424    1.2743  0.2072  1.170    0.242
## Nodes_ExNone       1.1840    3.2673  0.1739  6.808 9.89e-12 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##              exp(coef) exp(-coef) lower .95 upper .95
## Nodes_ExInadequate    1.274    0.7847    0.849    1.913
## Nodes_ExNone          3.267    0.3061    2.324    4.594
##
## Concordance= 0.653 (se = 0.02 )
## Likelihood ratio test= 49.69 on 2 df,  p=2e-11
## Wald test               = 52.81 on 2 df,  p=3e-12
## Score (logrank) test = 58.41 on 2 df,  p=2e-13
```

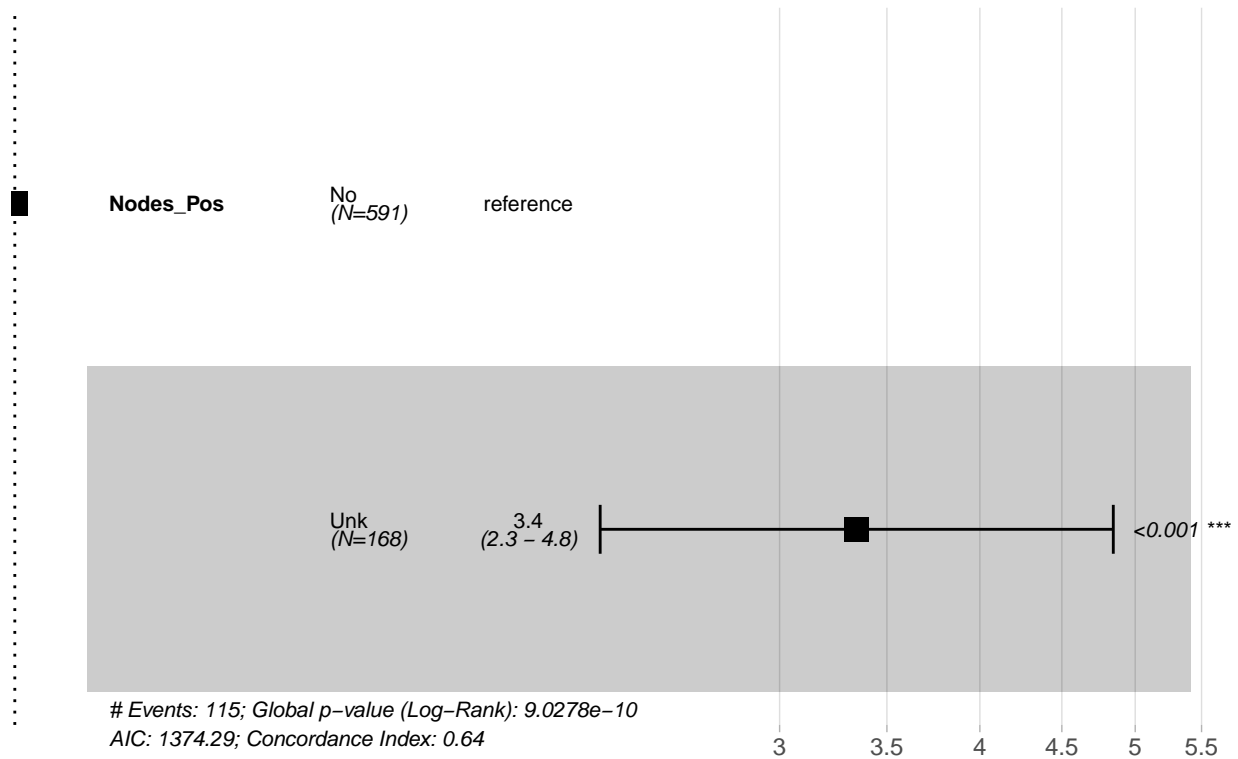
In patient's without LND, does adding chemo change their survival?

Survival of presumed early-stage HGSOc with chemotherapy



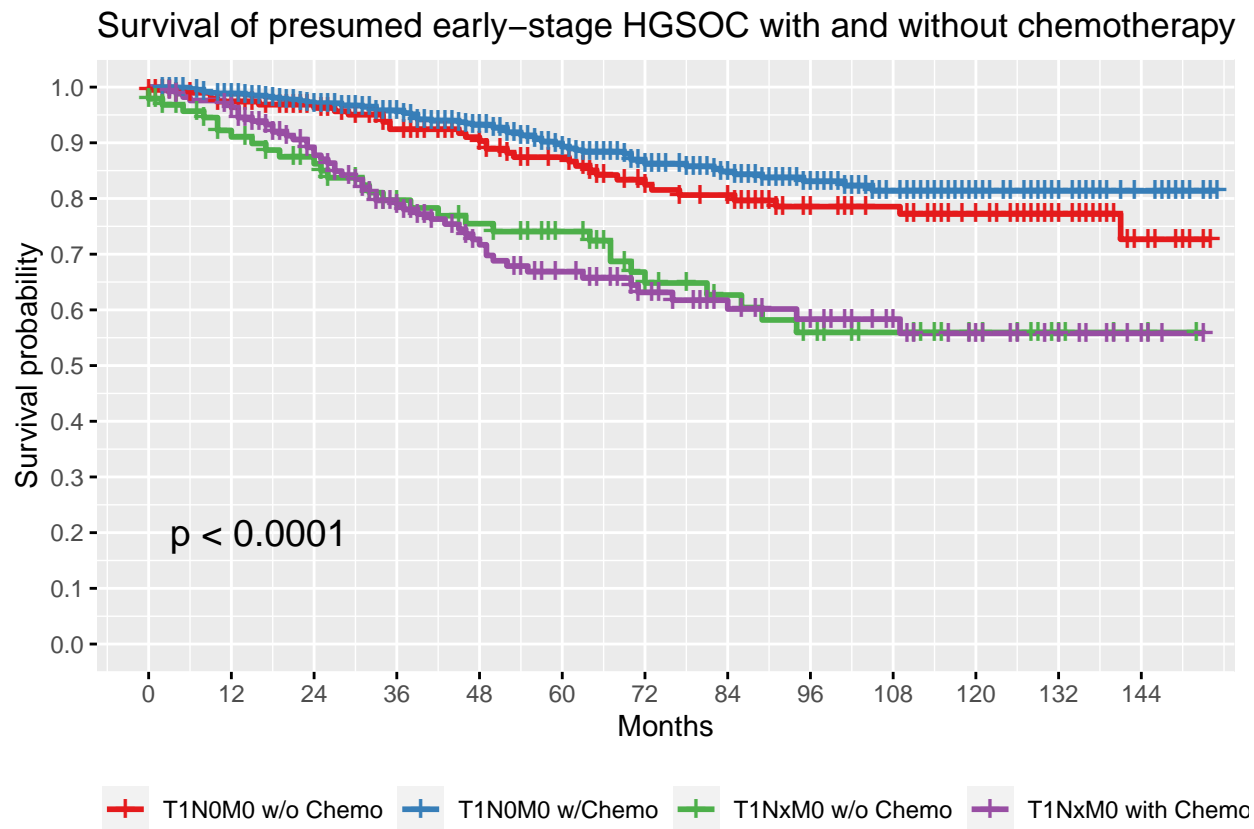
Positive Nodes	Count
No	591
Unk	168

Hazard ratio

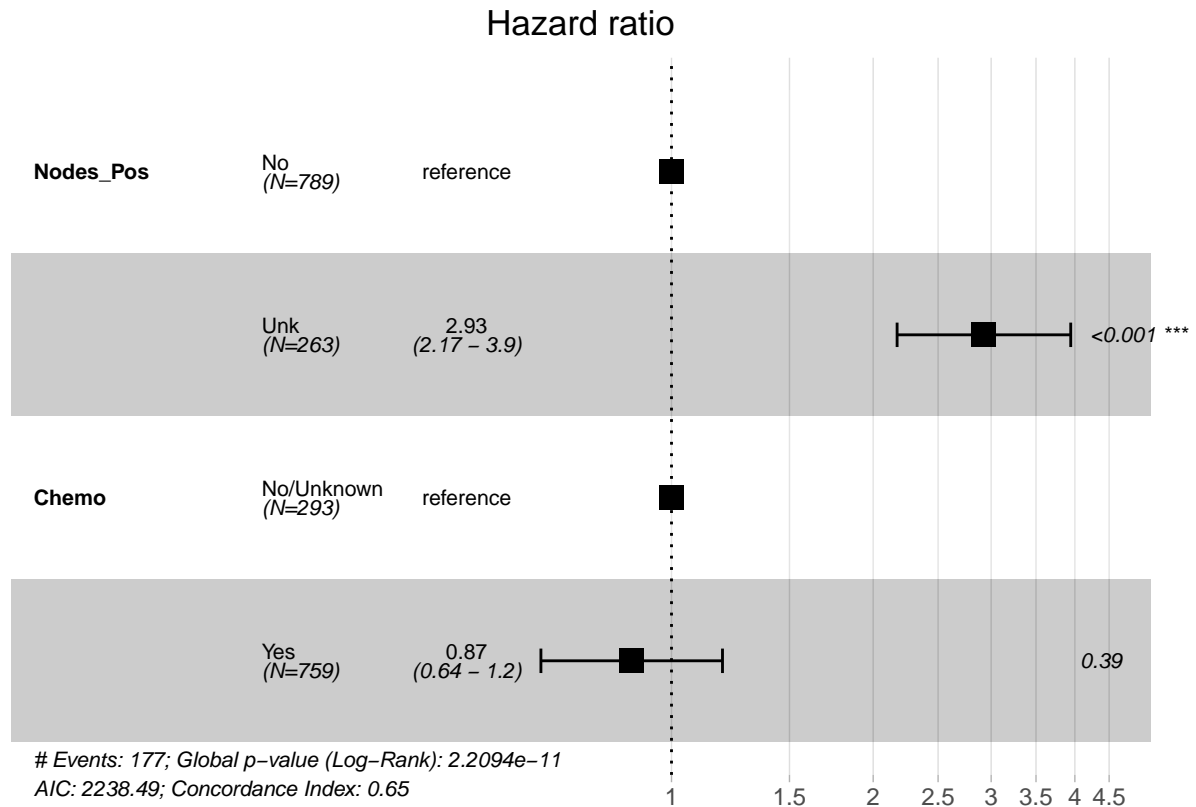


```
## Call:
## coxph(formula = Surv(SurvMonths, COD) ~ Nodes_Pos, data = HGS.ES.chemo)
##
##      n= 759, number of events= 115
##
##              coef exp(coef) se(coef)      z Pr(>|z|)
## Nodes_PosUnk 1.209      3.352   0.188 6.432 1.26e-10 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##              exp(coef) exp(-coef) lower .95 upper .95
## Nodes_PosUnk      3.351      0.2984      2.318      4.845
##
## Concordance= 0.642 (se = 0.024 )
## Likelihood ratio test= 37.52 on 1 df,  p=9e-10
## Wald test               = 41.37 on 1 df,  p=1e-10
## Score (logrank) test = 46.62 on 1 df,  p=9e-12
```

All early stage stratified by N Stage and receipt of Chemotherapy



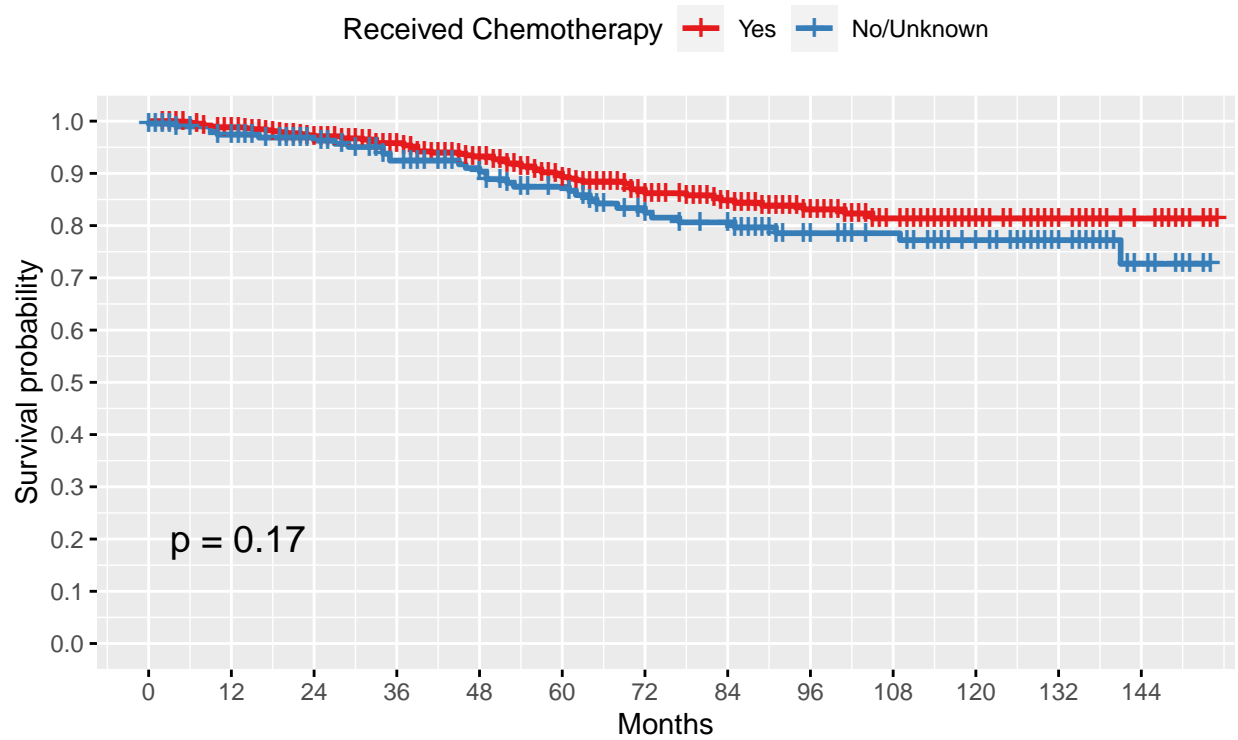
Positive Nodes	Chemotherapy received	
	No/Unknown	Yes
No	198	591
Unk	95	168



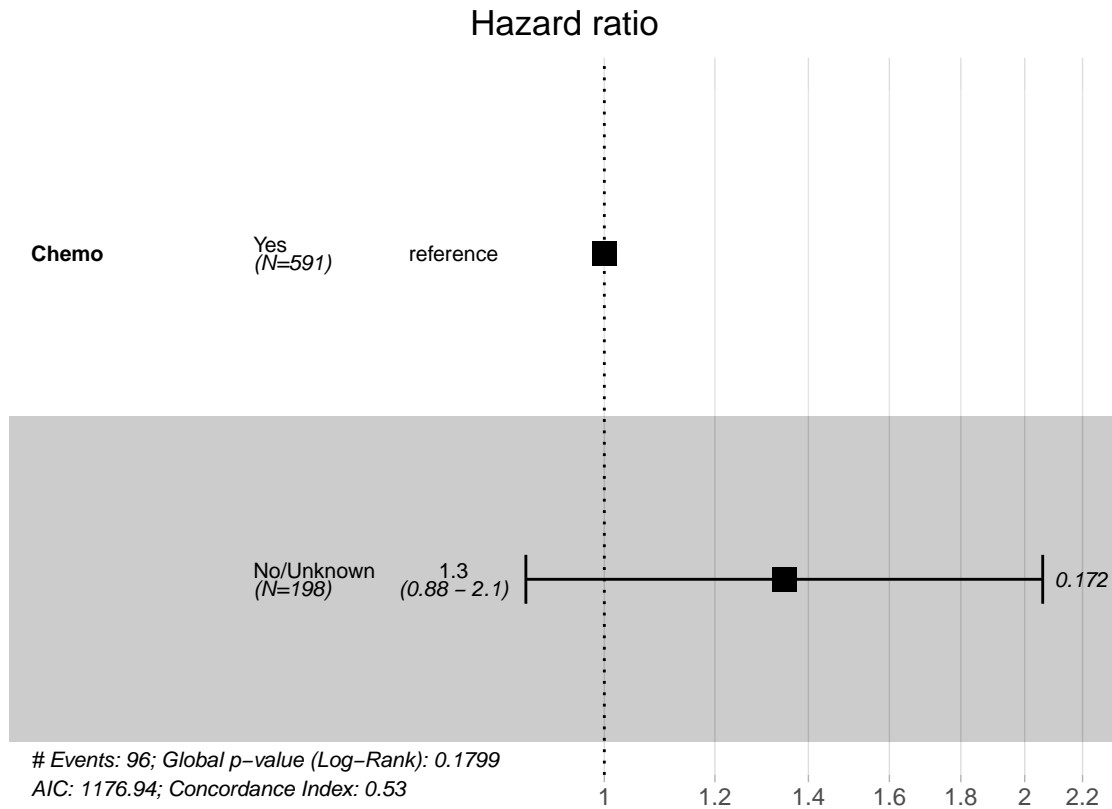
```
## Call:
## coxph(formula = Surv(SurvMonths, COD) ~ Nodes_Pos + Chemo, data = HGS.ES)
##
## n= 1052, number of events= 177
##
##              coef exp(coef) se(coef)      z Pr(>|z|)
## Nodes_PosUnk  1.0738    2.9264  0.1522  7.054 1.74e-12 ***
## ChemoYes      -0.1368    0.8722  0.1592 -0.859    0.39
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##              exp(coef) exp(-coef) lower .95 upper .95
## Nodes_PosUnk    2.9264    0.3417    2.1715    3.944
## ChemoYes        0.8722    1.1466    0.6384    1.192
##
## Concordance= 0.647 (se = 0.021 )
## Likelihood ratio test= 49.07 on 2 df,  p=2e-11
## Wald test            = 52.89 on 2 df,  p=3e-12
## Score (logrank) test = 58.24 on 2 df,  p=2e-13
```


Survival difference between N0 patients with and without chemotherapy

Survival of T1N0M0 patients stratified by receipt of chemotherapy



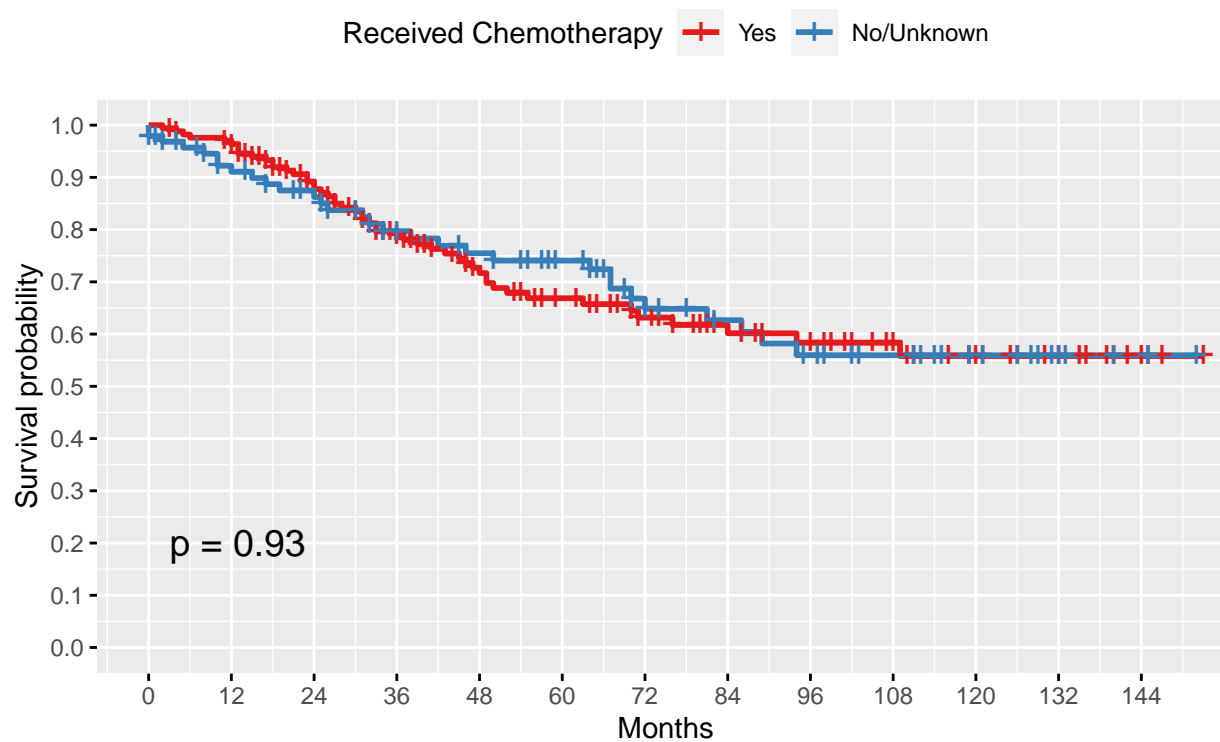
Received Chemotherapy	Count
Yes	591
No/Unknown	198



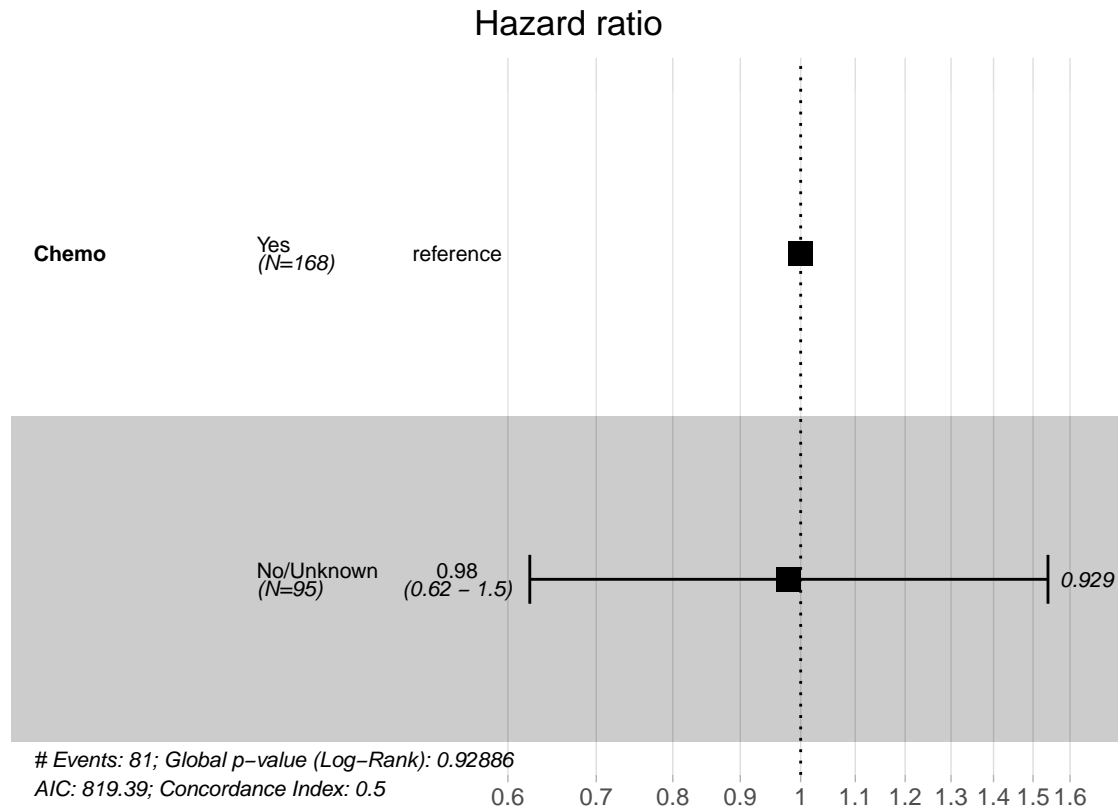
```
## Call:
## coxph(formula = Surv(SurvMonths, COD) ~ Chemo, data = HGS.NO)
##
##   n= 789, number of events= 96
##
##               coef exp(coef) se(coef)      z Pr(>|z|)
## ChemoNo/Unknown 0.2967   1.3455  0.2174 1.365   0.172
##
##               exp(coef) exp(-coef) lower .95 upper .95
## ChemoNo/Unknown   1.345    0.7432  0.8787    2.06
##
## Concordance= 0.533 (se = 0.025 )
## Likelihood ratio test= 1.8 on 1 df,  p=0.2
## Wald test               = 1.86 on 1 df,  p=0.2
## Score (logrank) test = 1.88 on 1 df,  p=0.2
```

Survival difference between Nx patients with and without chemotherapy

Survival of T1NxM0 patients stratified by receipt of chemotherapy



Received Chemotherapy	Count
Yes	168
No/Unknown	95



```
## Call:
## coxph(formula = Surv(SurvMonths, COD) ~ Chemo, data = HGS.Nx)
##
##      n= 263, number of events= 81
##
##              coef exp(coef) se(coef)      z Pr(>|z|)
## ChemoNo/Unknown -0.02057   0.97964  0.23065 -0.089   0.929
##
##              exp(coef) exp(-coef) lower .95 upper .95
## ChemoNo/Unknown    0.9796      1.021   0.6234    1.54
##
## Concordance= 0.498 (se = 0.029 )
## Likelihood ratio test= 0.01 on 1 df,  p=0.9
## Wald test            = 0.01 on 1 df,  p=0.9
## Score (logrank) test = 0.01 on 1 df,  p=0.9
```