KM FRET LCA Classes

P Barber

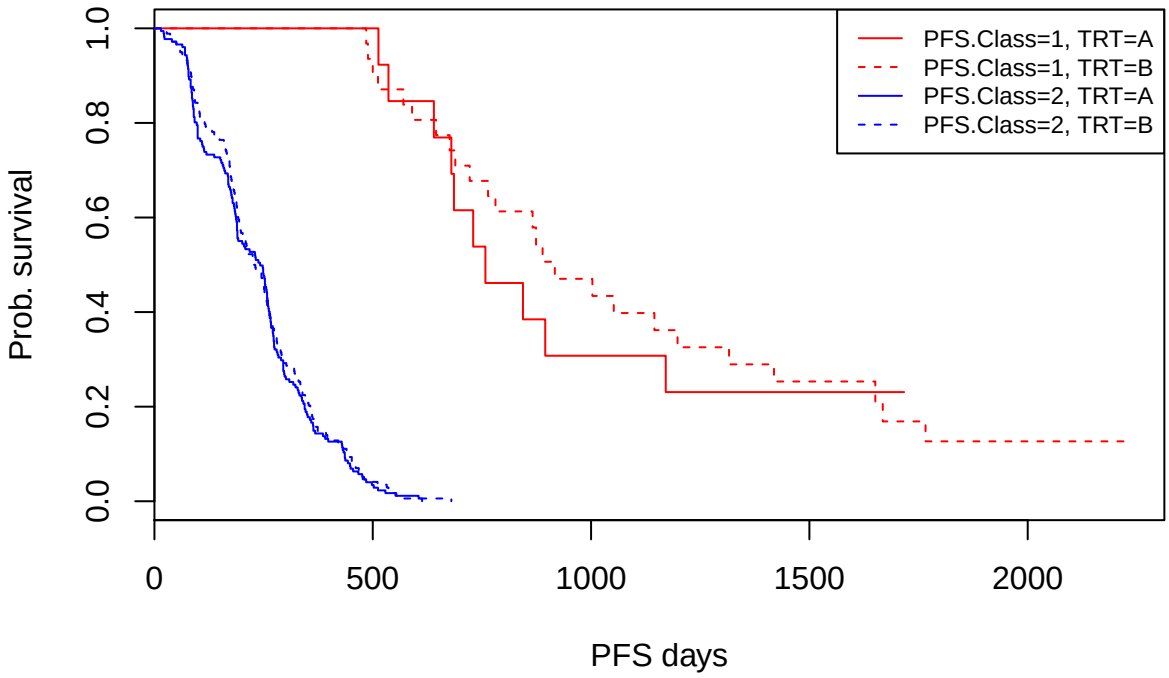
15 February 2019

```
load(file = "COIN_Final.Rdata")
```

```
library(survival)

data <- patient_data[patient_data$FRET.cohort==1,]

data$SurvObj.os <- with(data, Surv(ostime, osevent))
data$SurvObj.pfs <- with(data, Surv(pfstime, pfsevent))

col=c("red", "red", "blue", "blue")
lty=c(1,2,1,2)
```

PFS by class

```
# rename
data$PFS.Class <- data$Class.FRET.PFS

km <- survfit(SurvObj.pfs ~ PFS.Class + TRT, data=data)
plot(km, col=col, lty=lty, xlab="PFS days", ylab="Prob. survival")
legend("topright", col=col, legend = names(km$strata), lty=lty, cex=0.75)
```




```
print(km)
```

```
## Call: survfit(formula = SurvObj.pfs ~ PFS.Class + TRT, data = data)
##
##                       n events median 0.95LCL 0.95UCL
## PFS.Class=1, TRT=A   13     10    758     680      NA
## PFS.Class=1, TRT=B   31     25    917     764    1419
## PFS.Class=2, TRT=A 176    175    242     190     260
## PFS.Class=2, TRT=B 178    177    228     198     258
```

```
survdiff(SurvObj.pfs ~ PFS.Class, data=data)
```

```
## Call:
## survdiff(formula = SurvObj.pfs ~ PFS.Class, data = data)
##
##                N Observed Expected (O-E)^2/E (O-E)^2/V
## PFS.Class=1   44       35      129      68.3       151
## PFS.Class=2 354      352      258      34.1       151
##
##  Chisq= 151  on 1 degrees of freedom, p= <2e-16
```

```
survdiff(SurvObj.pfs[PFS.Class==1] ~ TRT[PFS.Class==1], data=data)
```

```
## Call:
## survdiff(formula = SurvObj.pfs[PFS.Class == 1] ~ TRT[PFS.Class ==
##     1], data = data)
##
##                        N Observed Expected (O-E)^2/E (O-E)^2/V
```

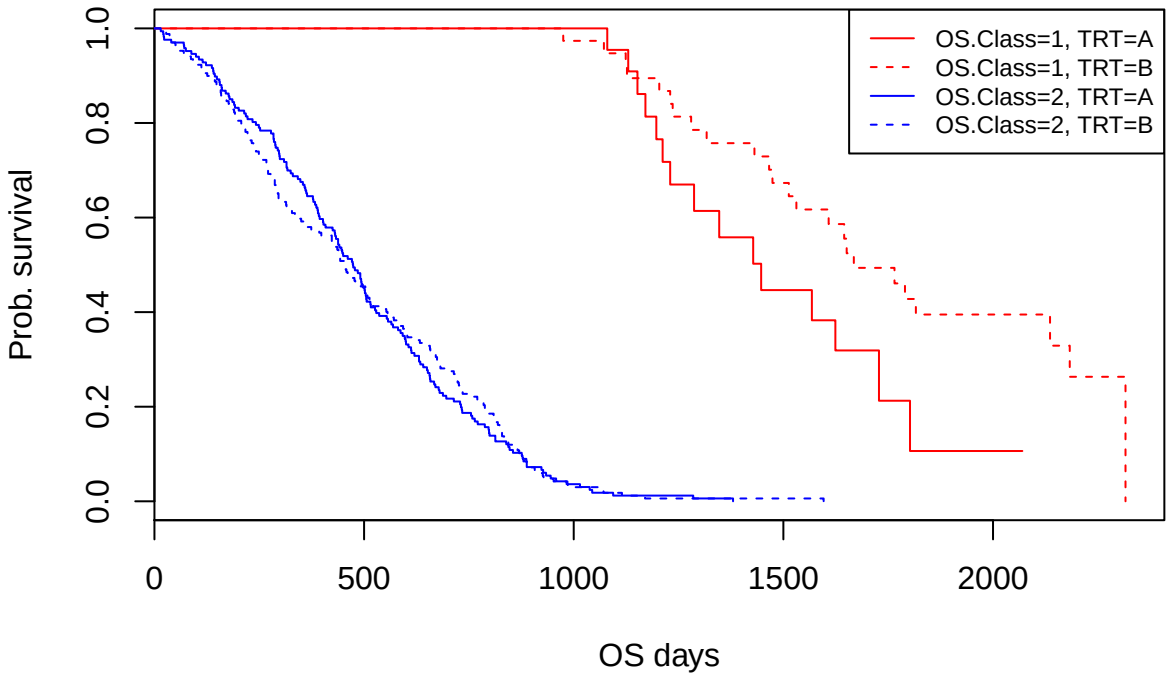
```
## TRT[PFS.Class == 1]=A 13       10     8.92    0.1295     0.177
## TRT[PFS.Class == 1]=B 31       25    26.08    0.0443     0.177
##
##  Chisq= 0.2  on 1 degrees of freedom, p= 0.7
```

```
survdiff(SurvObj.pfs[PFS.Class==2] ~ TRT[PFS.Class==2], data=data)
```

```
## Call:
## survdiff(formula = SurvObj.pfs[PFS.Class == 2] ~ TRT[PFS.Class ==
##     2], data = data)
##
##                           N Observed Expected (O-E)^2/E (O-E)^2/V
## TRT[PFS.Class == 2]=A 176      175      170     0.136     0.267
## TRT[PFS.Class == 2]=B 178      177      182     0.127     0.267
##
##  Chisq= 0.3  on 1 degrees of freedom, p= 0.6
```

OS by class

```
# rename
data$OS.Class <- data$Class.FRET.OS

km <- survfit(SurvObj.os ~ OS.Class + TRT, data=data)
plot(km, col=col, lty=lty, xlab="OS days", ylab="Prob. survival")
legend("topright", col=col, legend = names(km$strata), lty=lty, cex=0.75)
```



```
print(km)
```

```
## Call: survfit(formula = SurvObj.os ~ OS.Class + TRT, data = data)
##
##                      n events median 0.95LCL 0.95UCL
## OS.Class=1, TRT=A  22     15   1447    1230      NA
## OS.Class=1, TRT=B  40     24   1668    1531      NA
## OS.Class=2, TRT=A 167    166    474     430     515
## OS.Class=2, TRT=B 169    168    455     393     521
```

```
survdiff(SurvObj.os ~ OS.Class, data=data)
```

```
## Call:
## survdiff(formula = SurvObj.os ~ OS.Class, data = data)
##
##              N Observed Expected (O-E)^2/E (O-E)^2/V
## OS.Class=1  62       39      151      83.5       197
## OS.Class=2 336      334      222      57.1       197
##
##  Chisq= 197  on 1 degrees of freedom, p= <2e-16
```

```
survdiff(SurvObj.os[OS.Class==1] ~ TRT[OS.Class==1], data=data)
```

```
## Call:
## survdiff(formula = SurvObj.os[OS.Class == 1] ~ TRT[OS.Class ==
##     1], data = data)
##
##                       N Observed Expected (O-E)^2/E (O-E)^2/V
## TRT[OS.Class == 1]=A 22       15     9.77     2.794      3.97
## TRT[OS.Class == 1]=B 40       24    29.23     0.934      3.97
##
##  Chisq= 4  on 1 degrees of freedom, p= 0.05
```

```
survdiff(SurvObj.os[OS.Class==2] ~ TRT[OS.Class==2], data=data)
```

```
## Call:
## survdiff(formula = SurvObj.os[OS.Class == 2] ~ TRT[OS.Class ==
##     2], data = data)
##
##                       N Observed Expected (O-E)^2/E (O-E)^2/V
## TRT[OS.Class == 2]=A 167      166      164    0.0168    0.0335
## TRT[OS.Class == 2]=B 169      168      170    0.0163    0.0335
##
##  Chisq= 0  on 1 degrees of freedom, p= 0.9
```

Session Information

```
sessionInfo()
```

```
## R version 3.5.1 (2018-07-02)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 17134)
##
## Matrix products: default
```

```
##
## locale:
## [1] LC_COLLATE=English_United Kingdom.1252
## [2] LC_CTYPE=English_United Kingdom.1252
## [3] LC_MONETARY=English_United Kingdom.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United Kingdom.1252
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] survival_2.42-6
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_1.0.1      lattice_0.20-35 digest_0.6.18   rprojroot_1.3-2
##  [5] grid_3.5.1      backports_1.1.2 magrittr_1.5    evaluate_0.12
##  [9] stringi_1.1.7   Matrix_1.2-14   rmarkdown_1.10  splines_3.5.1
## [13] tools_3.5.1     stringr_1.3.1   yaml_2.2.0      compiler_3.5.1
## [17] htmltools_0.3.6 knitr_1.20
```