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Standard analysis 8-1

The purpose of this note is to present a standard analysis of time-to-event data. The data on malignant melanoma were used in Exercise 8-1.

Statistical methods

The mortality risk after operation for malignant melanoma for males and females were estimated using the Kaplan-Meier methods. Mortality rates for males as compared to females were estimated using Cox proportional hazard model. The assumption of proportional rates was accessed using log-minus-log plots.

Results and conclusion

Figure 1 show the mortality risk for males and females. The 5-years mortality risk for females was 18% (95% CI: 12-26%) and for males 32% (95% CI: 23-44%). Males had during the study period a 94% (95% CI: 15-226%) higher mortality rate as compared to females (hazard ratio: 1.94, 95% CI: 1.15-3.26), which was statistical significant (p=0.01).

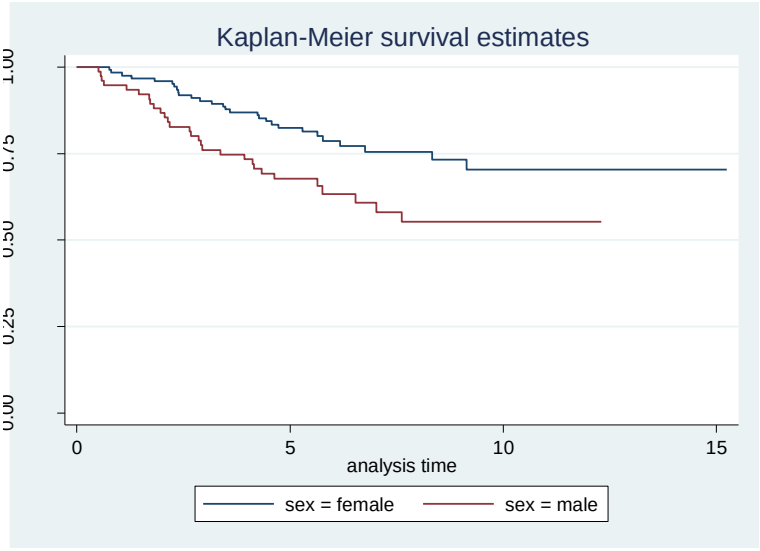

Figure 1 Mortality risk after 5 years for males and females.

Do file

```
**********************************************************************
* Standard8-1.do
* Task: A standard analysis of time-to-event data. The data on
* malignant melanoma were used in Exercise 8-1.
* Erik Parner: 30-3-2016.
**********************************************************************
```

```
clear
cd "D:\Teaching\BasicBiostat\Exercises"

capture log close
graph drop _all
log using standard8-1.log, replace

use meldates.dta, clear
codebook

stset enddate,fail(status) enter(startdate) scale(365.25) origin(startdate)

sts graph, by(sex)
sts list , at(0 5) by(sex) failure

stphplot ,by(sex) nonegative noIntime
stcox i.sex

log close
```