Supplementary Material

We conduct a simulation study to show truncation-by-death is different from censoring. The simulation is conducted using R statistical software (version 3.6.1; The R Foundation for Statistical Computing, Vienna, Austria). The following R code lists the procedure of model fit in each iteration.

(1) Generate the recovery time with right censoring of treatment group and placebo group.

```
n1=500
n0=500
t1=round(rexp(n1,1/11),0)
t0=round(rexp(n0,1/15),0)
t1[t1>30]=30
t0[t0>30]=30
c1=as.numeric(t1<30)
c0=as.numeric(t0<30)
```

(2) Consider two strata: with and without underlying medical diseases. Generate the survival status.

```
s1=rbinom(n1,1,0.4)
s0=rbinom(n0,1,0.3)
d1=-(s1×rbinom(n1,1,0.3)+(1-s1)×rbinom(n1,1,0.1))
d0=1-(s0×rbinom(n0,1,0.3)+(1-s0)×rbinom(n0,1,0.1))
```

(3) The observed recovery time T, observability R, underlying diseases S, survival status D, treatment X.

```
T1=t1×d1+30×(1-d1)
T0=t0×d0+30×(1-d0)
R1=apply(rbind(c1,c1),2,min)
R0=apply(rbind(c0,c0),2,min)
X=c(rep(1,n1),rep(0,n0))
R=c(R1,R0)
T=c(T1,T0)
S=c(s1,s0)
D=c(d1,d0)
W=1/c(rep(0.82,n1),rep(0.84,n0))
```

(4) Fitting the Cox proportional hazard model.

```
library(survival)
res.cox1<-coxph(Surv(T,R)~X)
res.cox2<-coxph(Surv(T,R)~X, subset=(D==1))
res.cox3<-coxph(Surv(T,R)~X, weights=W, subset=(D==1))
res.cox41<-coxph(Surv(T,R)~X, subset=(S==1))
res.cox42<-coxph(Surv(T,R)~X, subset=(S==0))
res.cox51<-coxph(Surv(T,R)~X, subset=(D==1&S==1))
res.cox52<-coxph(Surv(T,R)~X, subset=(D==1&S==0))
```