(light) PhD seminar

29th November 2018, 17:30
Seminar Room, BCAM

A multi-state model for the prognosis of non-mild acute pancreatitis

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Acute pancreatitis (AP) is an inflammatory condition of the pancreas with low mortality in its mild forms. Nevertheless, the most severe forms, and consequently patients with AP admitted to Intensive Care Units (ICU), showed high mortality. In addition, prediction of AP mortality is not straightforward due to the low incidence of the most severe forms and because its fluctuating clinical course. It is then, of paramount importance to determine risk factors for AP [1] so that an adequate prognosis of the disease can be established.

In this talk, motivated by data from an observational study of patients with non-mild AP, we will show a multi-state modeling approach to describe the course of these patients. The proposed model is an extension of the illness-death model [2,3] allowing to take into account the disease-related events of interest, that is, entry to ICU, discharge from ICU and death due to AP. We will evaluate the effect of different prognostic factors on the multiple disease-related events, by means of non-parametric methods and Cox proportional hazards regression models with covariates that are fixed over time and with time-dependent covariates.

References

[1] Forsmark C. E., Yadav D. (2016). Predicting the Prognosis of Acute Pancreatitis. Annals of Internal Medicine. 165(7), 523-524.

[2] Hougaard P. (2000). Analysis of multivariate survival data, Springer, Chapter 5.

[3] Meira-Machado L., De Uña-Álvarez J., Cadarso-Suárez C., Andersen P. K. (2009). A multi-state model for the analysis of time-to-event data. Stat. Methods Med Res. 18(2), 195-222.