	Proposition de stage	
eXYSTAT Biometric Expertise	**BIOSTATISTICIEN**	

Background:

Cardiac transthyretin (ATTR) amyloidosis is an increasingly recognized, progressive, and fatal cardiomyopathy, for which the natural history remains unclear. A clinical study sponsored by CHU Créteil was conducted with 2 objectives. Aim1 was to assess the impact of NTproBNP changes on mortality in amyloid cardiomyopathy untreated patients. Aim2 was to assess the NTproBNP changes before and after treatment with Tafamidis.

Methods: Data from 648 consecutive patients included between 2007 and 2019 from an ongoing monocentric, longitudinal, observational registry on the natural history of ATTR at the Henri Mondor Teaching Hospital were used.

For aim 1, patients with at least 2 NT-proBNP available values (N=401) were included. NT-proBNP initial values were categorized in four groups according to quartiles values. Patients were stratified according to the quartile increase (group A) or not increase (Group B). Event of interest was the first observed event between death, decompensation or heart transplant. Patients were censored if they started any ATTR treatment or if no event occurred at the end of the follow up or at the cut-off date (31OCT2019). Cox proportional hazards regression model was used to calculate the hazard-ratio (HR) and log-rank test to compare the two survival curves. Crude and adjusted analyses on NYHA Class, ATTR variant, NAC-ATTR stage and Strain baseline were performed.

For aim 2, 265 patients treated with Tafamidis were considered, having at least 2 NT-proBNP values available (before and under treatment) in order to document NT-proBNP evolution. Slopes before and under treatment were evaluated and compared using a regression model including time*treatment interaction.

Internship objectives: To explore Impact on survival of N-terminal pro-B-type natriuretic peptide (NT-proBNP) INCREASE after diagnosis for cardiac transthyretin amyloidosis

- To write a synthesis of bibliography on survival design and regression model related to the topic and to list all the available softwares.
- To propose innovative methods to answer to the question
- To apply these methods on the real database
- To perfom other exploratory analyses on this database
- To propose a specific statistical analysis plan for this study

Line Management

Statistics Associate Director

Background

- Master 2 in Statistics
- Fluency in English
- Fluent use of computer tools and statistical softwares (e.g. SAS or R softwares)

Organization

- Located in Malakoff (92)
- At least 6 months duration