Introduction

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This report explores associations between time to flare and the variables recorded at baseline. Time to flare is modelled using Cox models with the variable of interest and controlled variables (sex, and deprivation) included as fixed effects. A gamma frailty term is employed for hospital sites (which may capture inter-hospital differences).

The primary study endpoint is patient-reported flare which is defined as a participant reporting their disease as being uncontrolled when they completed a monthly study questionnaire.

For patient-reported flares, only the first two years of follow-up are considered as this was the time interval in which questionnaires were sent to participants.

The secondary study endpoint is objective flare, which required elevated CRP and/or CRP and for the subject to change medication. Data for this endpoint was collected via end-of-study phenotyping.

For objective flares, the full study follow-up period has been used, from study recruitment to the time the end of study phenotyping was completed.

Patient-reported and objective flares have been identified by Dr Linda Williams, the PREdiCCt trial statistician. The same flare definitions have been used across all teams working on PREdiCCt. The full steps for defining patient-reported flares are included below.

Steps for calculating patient-reported flares

1. If date of flare is before date of entry to study, then delete flare date and recode diseasecontrolled as 1.
2. If flare date is after the questionnaire date (I.E in the future), reset flare date to questionnaire date.
3. If questionnaire completed after date of withdrawal, remove.
4. If date of flare is >2 years after entry, censor patient-reported flare at 2 years.
5. Time is earliest of flare time or end of follow up, from entry date.

6. All data censored at 2 years.
7. Including the objective flares (objective flare data are much more straightforward, flare=`diseaseflareyn` and flare date=`firstflarestartdate` from EOS data)

    - If both datasets say no flare, patient-reported flare is no and follow up time from objective flare <= 2 years, patient-reported flare time is longest of questionnaire and objective flare times
    - If both datasets say no flare, patient-reported flare is no and follow up time from objective flare > 2 years, patient-reported time is 2 years
    - If no flare in questionnaires, but objective flare reported before 2 years of follow up, take objective flare data
    - If no flare in questionnaires, but objective flare reported after 2 years, patient-reported flare is no and patient-reported flare time is 2 years
    - If flare in questionnaire and no objective flare, patient-reported flare from questionnaire data
    - If flare in questionnaire and also objective flare, take the earliest time
    - If questionnaire data is missing and no objective flare, patient-reported flare is no and time is earliest of objective flare follow up and 2 years
    - If questionnaire data is missing and objective flare reported within 2 years, patient-reported flare data are taken from objective flare data
    - If questionnaire data is missing and objective flare reported after 2 years then patient-reported flare is no and time is 2 years
    - Otherwise if questionnaire data is not missing and hardflare is, then patient-reported flare is taken from questionnaire data

All times are taken from the earliest reported flare.