

# Retinal toxicity in a multinational inception cohort of systemic lupus patients on hydroxychloroquine

**Authors:** Celline C Almeida-Brasil, John G. Hanly, Murray B. Urowitz, Ann E Clarke, Rosalind Ramsey-Goldman, Caroline Gordon, Michelle A. Petri, Ellen M Ginzler, Daniel J Wallace, Sang-Cheol Bae, Juanita Romero-Diaz, Mary Anne Dooley, Christine A. Peschken, David A Isenberg, Anisur Rahman, Susan Manzi, Soren Jacobsen, S. Sam Lim, Ronald van Vollenhoven, Ola Nived, Andreas Jonsen, Diane L Kamen, Cynthia Aranow, Guillermo Ruiz-Irastorza, Jorge Sanchez-Guerrero, Dafna D. Gladman, Paul R. Fortin, Graciela S Alarcón, Joan T. Merrill, Kenneth C Kalunian, Manuel Ramos-Casals, Kristjan Steinsson, Asad Zoma, Anca Askanase, Munther A. Khamashta, Ian Bruce, Murat Inanc, Sasha Bernatsky

## The probability of retinal toxicity increases after 10 years of cumulative HCQ use in recent-onset SLE patients

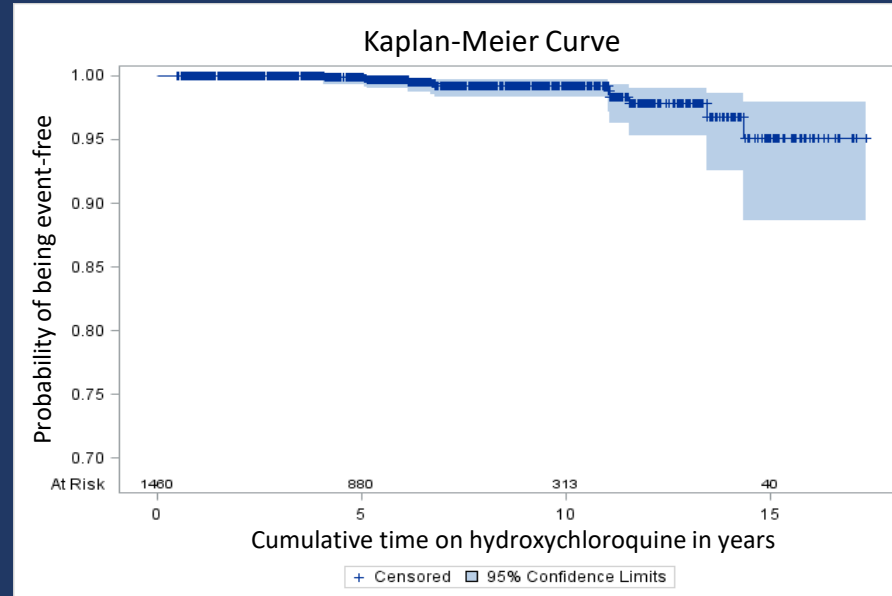
### Background:

- Hydroxychloroquine (HCQ) is a cornerstone treatment for Systemic Lupus Erythematosus (SLE)
- Long-term HCQ use may lead to retinal toxicity, a serious and irreversible condition
- Retinal toxicity incidence and associated factors have not been described for incident SLE patients

**Objective:** To evaluate the incidence of HCQ-related retinal toxicity and associated factors

### Methods:

- Systemic Lupus International Collaborating Clinics (SLICC) inception cohort
  - 33 countries
  - Recent-onset SLE patients
  - Annual follow-up
- Time-zero: first visit on HCQ
- Outcome: documentation of HCQ-related retinal toxicity (confirmed by chart review)
- Analyses: Kaplan-Meier curve and Cox regression



### Results:

- Total of 1460 patients (89% female, 52% Caucasian)
- Retinal toxicity was confirmed for 11 patients (incidence 1.0 per 1000 person-years) at a mean of 8.8 (SD 4.0) years on HCQ

**Table 1. Hazard ratios (HRs), and 95% confidence intervals (CIs) for retinal toxicity in HCQ-exposed SLE patients (N=1460)**

Characteristics at time zero	HR (95% CI)	aHR (95% CI)
Male sex	2.18 (0.47, 10.1)	1.73 (0.36, 8.36)
Race/ethnicity		
Caucasian	Reference	-
Black	1.21 (0.25, 5.92)	2.16 (0.37, 12.60)
Others	0.44 (0.09, 2.13)	0.58 (0.11, 2.97)
Age at SLE diagnosis in years	<b>1.05 (1.01, 1.09)</b>	1.05 (1.00, 1.09)
HCQ daily dose >5mg/Kg	1.16 (0.35, 3.80)	1.55 (0.46, 5.19)
Overweight (Body mass index≥25)	1.64 (0.44, 6.06)	2.50 (0.54, 11.51)
Smoker	1.23 (0.26, 5.69)	1.26 (0.27, 5.94)

- There were non-significant trends for greater risk in **men, black patients**, those receiving **more than 5 mg/kg of HCQ** at baseline, **overweight patients** and **smokers**
- More sophisticated analyses with time-dependent variables are under way

### References:

[1] Marmor et al. *Ophthalmology*. 2016;123(6): 1386-94. [2] Melles et al. *JAMA Ophthalmol*. 2014; 132(12):1453-60.

### Questions?

celline.brasil@mail.mcgill.ca

