Results: Of all patients on hydroxychloroquine (regardless of dose), 64% of patients had no mention of ophthalmologic monitoring on their documented clinic letter. Documentation of monitoring did not vary by dose, despite the increased risk of toxicity for those on 400 mg daily.

Table to show percentage of electronic documentation of patients screened on hydroxychloroquine

Hydroxychloroquine	documented(%)	undocumented(%)
200 mg daily	35	65
400 mg daily	44	54
200 mg/400 mg alternate days	0	100

This audit suggests that Queens Medical Centre patients are not meeting the set standard of ophthalmological review.

Conclusions: The BSR guidelines have highlighted that there are organisational barriers to monitoring, but acknowledges that ophthalmological risks are present with the use of continued hydroxychloroquine therapy. High risk patients with existing or early signs of visual involvement, should be selected for early assessment and more vigilant follow up. SD-OCT was found to be significantly more cost effective than standard ophthalmological examination⁵. It should be acknowledged that the results of the audit reflect documentation as opposed to practice. Mention of ophthalmological monitoring does not ensure that doctors are actually asking about visual problems. Guidelines have since been updated in April 2017 that recommend annual screening only after 5 years of therapy is sufficient but with a full ophthalmological screening by an ophthalmologist.

REFERENCES:

- [1] Melles R, Marmor M. The Risk of Toxic Retinopathy in Patients on Long-term Hydroxychloroquine Therapy. *JAMA Ophthalmology* 2014;132(12):1453.
- [2] Iselin K, Marti P, Pless M. Hydroxychloroquine-Induced Retinal Toxicity. *Klinische Monatsblätter für Augenheilkunde*. 2016;233(04):514–516.
- [3] Wolfe F, Marmor M. Rates and predictors of hydroxychloroquine retinal toxicity in patients with rheumatoid arthritis and systemic lupus erythematosus. *Arthritis Care & Research* 2010;62(6):775–784.
- [4] Silman A, Shipley M. Ophthalmological monitoring for hydroxychloroquine toxicity: a scientific review of available data. *Rheumatology* 1997;36(5):599–601.
- [5] Olson J, Sharp P, Goatman K, Prescott G, Scotland G, Fleming A, et al. Improving the economic value of photographic screening for optical coherence tomography-detectable macular oedema: a prospective, multicentre, UK study. *Health Technology Assessment* 2013;17(51).

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SAFETY, TOLERABILITY, PHARMACOKINETIC AND PHARMACODYNAMIC EFFECTS OF BIIB059, A MONOCLONAL ANTIBODY TARGETING BDCA2 FOLLOWING INTRAVENOUS (IV) AND SUBCUTANEOUS (SC) SINGLE OR MULTIPLE DOSES ADMINISTRATION IN HEALTHY VOLUNTEERS (HV) AND SUBJECTS WITH ACTIVE SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

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Background: BDCA2 is a plasmacytoid dendritic cell (pDC)-specific receptor that, upon activation, inhibits the inflammatory factors production by human pDCs, including IFN- α a major player in the pathogenesis of SLE. This 3-Part Phase 1 study evaluated the safety, tolerability, pharmacokinetics (PK), pharmacodynamics (PD) and clinical efficacy of single and multiple ascending doses (SAD-MAD) of BIIB059 in HV and SLE subjects (NCT02106897).

Objectives: To compare PK and PD parameters between HV and SLE following single and multiple dose administration of BIIB059

Methods: In the SAD Part 2, 12 subjects with active SLE were randomised 2:1 to receive a single 20 mg/kg IV dose of BIIB059 or placebo. In the MAD Part 3, HV received either 2 or 3 SC administrations of Placebo or BIIB059 20, 50 or 150 mg) Q4W or 3 SC 300 mg Q2W. Subjects with active SLE, received either 2 or 3 SC placebo or BIIB059 50 mg or 300 mg. The dose levels were selected based on emerging data from the Part 1 in HV and was not to exceed the maximum tolerated dose. Blood samples were obtained before and after each dose administration to characterise PK and PD (BDCA2 on pDC) relationship for BIIB059.

Results: Part 1 PK and PD results (SAD) in HV and Part 2 PD results have been previously presented¹⁻². In Part 2 of the study, following IV administration, mean $t_{1/2}$ in SLE subjects was 18.1 days, with a mean CL of 0.251 L/day and a mean volume of distribution V_{ss} of 5.41 L. Following SC administration, in Part 3a, mean $t_{1/2}$ in HV subjects ranged from 13.3 to 19.5 days, mean CL_{ss}/F ranged from 0.267 to 0.367 L/day and V_z/F ranged from 7.23 to 9.36 L. In Part 3b, mean $t_{1/2}$ in SLE subjects ranged from 12.6 to 20.5 days with a mean CL_{ss}/F of 0.455 to 0.485 L/day and a mean V_z/F of 5.93 and 12.8 L. Exposure (AUC and C_{max}) for BIIB059 increased with dose in both HV and SLE subjects. However exposure in SLE subjects was approximately 40% lower compared to HV which could not be attributed to body weight differences. The observed mean accumulation ratio for AUC was slightly lower in SLE subjects (2.58) compared to HV (2.66) after BIIB059 SC administration. Complete BDCA2 internalisation was achieved at all dose levels, the duration of which was dose dependent, and similar for HV and SLE subjects. Reappearance of BDCA2 on circulating pDCs occurred when serum concentrations of BIIB059 dropped to ~ 1 μ g/mL. Single and multiple IV and SC doses of BIIB059 appeared to be well-tolerated in HV and SLE subjects.

Conclusions: BIIB059 was generally well tolerated. Exposure in SLE subjects was lower compared to HV while BDCA2 internalisation was similar. Based on the Phase 1 data, BIIB059 is currently evaluated in a Phase 2 trial (NCT02847598).

REFERENCES:

- [1] Martin D, et al. Poster 774. *Arthritis Rheumatol*. 2016;68(suppl10).
- [2] Furie R, et al. Abstract 2013. *Arthritis Rheumatol*. 2016;68(suppl10).

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