

BRIEF COMMUNICATION



Ocular disease in active chronic lymphocytic leukaemia: a candidate for glaucoma screening?

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Eye (2023) 37:187–188; <https://doi.org/10.1038/s41433-022-02138-8>

Chronic lymphocytic leukaemia (CLL) is the commonest adult leukaemia in Western countries. In the UK, it accounts for 1% of all cancer cases with an incidence of 7.1 per 100,000, an increase of one tenth over the past decade [1]. However, the true prevalence of ocular involvement is unknown, particularly in ‘active’ CLL - disease requiring treatment or active monitoring. Whilst investigating local endophthalmitis cases, we noted that CLL patients appeared to have a high prevalence of glaucoma. Laboratory research indicates that CLL lymphocytes may interact with trabecular meshwork cells, giving rise to a type of open angle glaucoma (OAG) [2], but this has not been confirmed clinically. Given the importance of early glaucoma diagnosis, we decided to evaluate whether targeted screening may be beneficial.

We conducted a retrospective survey of all patients with active CLL attending St Mary’s Hospital, Isle of Wight, to determine the prevalence of ocular disease and compare glaucoma prevalence with the age-matched local population, ascertained via electronic patient records (EPR) and population census data [3]. Excepting glaucoma, ocular disease was classified as attributable, possibly attributable, or not attributable to CLL. ‘Glaucoma’ included OAG, glaucoma suspect (GS) and ocular hypertension (OHT).

Of 68 patients, mean age 72.7 (±10.6) years, 52% (n = 36) had evidence of ophthalmic examination and at least 1 ophthalmic diagnosis (Fig. 1): 1 attributable to CLL (retinal infiltrates), 3 possibly attributable (CRAO, CRVO, severe proliferative diabetic retinopathy), 68 not attributable. 9 (13.2%) had OAG (n = 7) or GS (n = 2) (95% CI 6.0–25.1%). The prevalence of OAG, GS or OHT in the age-matched population of the Isle of Wight, of 22,271 people, was 5.0% (n = 1124) (95% CI 4.8–5.4%). Using the Fisher’s exact test, the prevalence of glaucoma in the study population was significantly higher than the age-matched prevalence on the Isle of Wight (p = 0.007).

Ocular involvement in CLL, from direct infiltration or as a secondary disease effect, is thought to be rare. However, the true glaucoma prevalence may be under-reported, where a link to CLL has not been previously established. To our knowledge, this is the first study to provide clinical evidence supporting this possible association. It was considered that glaucoma may be more likely diagnosed in patients under frequent medical review with CLL; however, in our cohort all cases were found to have originated from routine community optometry visits. 47% of our patients had no documented ophthalmic examination, suggesting that the true

prevalence of glaucoma may have been higher. A recent review concluded that ‘targeted screening of a population subset with a higher prevalence of glaucoma may be effective’ [4]. In active CLL, an important consideration is whether patients may live long enough to benefit. While some cases may be very aggressive, 5-year survival for most ranges from 65 to 95% [1] and is increasing with treatment advances [5]. In our cohort, the mean survival was 83.3 years, similar to the UK average 81.2 years.

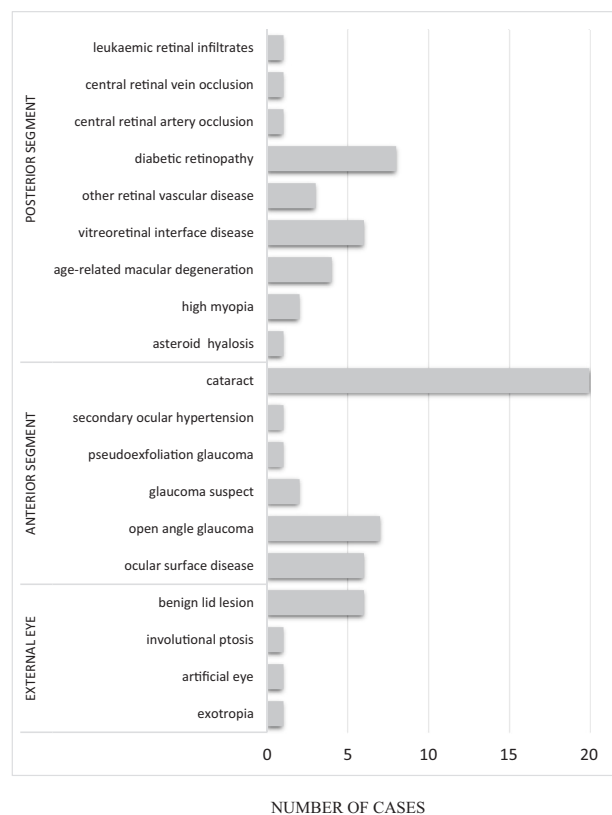


Fig. 1 Ocular diagnoses in patients with evidence of ophthalmic examination.

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Received: 20 December 2021 Revised: 1 May 2022 Accepted: 10 June 2022
Published online: 30 June 2022

In conclusion, patients with CLL may have an increased prevalence of glaucoma; larger studies are warranted to further evaluate this possible association.

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AUTHOR CONTRIBUTIONS

HB was involved in data collection and analysis and wrote up the report. GH contributed to data collection and writing the report. RS contributed to data collection and analysis. JL and AL were responsible for overseeing the project and editing the report.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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