Severe Chronic Lymphocytic Leukaemia

a candidate for glaucoma screening?

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BACKGROUND

Chronic lymphocytic leukaemia (CLL) is the commonest adult leukaemia in the UK, affecting 1% of the population[1]. Research suggests that CLL may increase the risk of glaucoma due to lymphocytic infiltration of the trabecular meshwork[2]. However, little is known about the prevalence of glaucoma or other potentially associated ocular diseases in this population[3].

AIM

We undertook this survey to evaluate the prevalence of glaucoma in patients with severe CLL and the prevalence of ocular disease overall, to consider whether ophthalmic screening may be warranted.

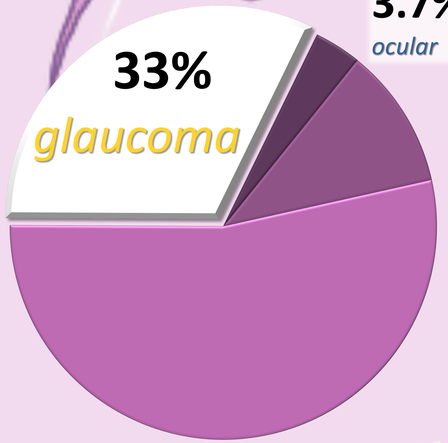
METHODS

We reviewed the case notes of all patients with a confirmed diagnosis of CLL attending St Mary's Hospital in the Isle of Wight since 2013, for evidence of glaucoma or 'other' ocular disease. 'Severe CLL' was defined as disease that required 'watch and wait' monitoring due to a high risk of progression, or treatment due to progression. 'Other' ocular disease was categorised as being **DEFINITELY**, **POSSIBLY** or **UNLIKELY** to be associated with CLL.

RESULTS

55 patients had severe CLL; **49%** had at least 1 ocular diagnosis:

mean age **73**
65% ♂
53% watch & wait
36% treatment



3.7% DEFINITELY associated with CLL
ocular CLL infilltration , hyperviscosity-induced retinal vein occlusion

11.1% POSSIBLY associated with CLL
central retinal artery occlusion, proliferative diabetic retinopathy, diabetic macular oedema

55.5% UNLIKELY to be associated with CLL
cataract, background diabetic retinopathy, age-related macular degeneration, dry eye, chalazion, pterygium, lid lesion, amelanocytic naevus, asteroid hyalosis, retinal tear, epiretinal membrane, hypertensive retinal haemorrhage, exotropia, artificial eye

Glaucoma prevalence *in the UK is* ***6%*** *(age-matched estimate)*

Glaucoma prevalence *in our sample is* ***16.4%*** *p<0.05**

CONCLUSIONS

Our findings indicate that direct ocular involvement in severe CLL is rare; however the prevalence of glaucoma was significantly higher compared to the age-matched UK population. Glaucoma screening may therefore be beneficial in these patients; larger studies are warranted to establish this potential association and guide management strategies.

References: (1) Cancer Research UK. 2021. https://www.cancerresearchuk.org. (2) Schuman S, Wang N, Eisenberg DL. Leukemic glaucoma: the effects on outflow facility of chronic lymphocytic leukemic lymphocytes. *Exp Eye Res* **61;** 609-617 (1995). (3) Buchan J, McKibbin M, Burton T. The prevalence of ocular disease in chronic lymphocytic leukaemia. *Eye* **17;** 27-30 (2003). ***Chi-square test**