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Research Article

Prevalence of Persistent Hyperplastic Primary Vitreous

Shinji Makino
Department of Ophthalmology, Jichi Medical University, Shimotsuke, Tochigi, Japan

***Corresponding author**
Shinji Makino
Email: makichan@jichi.ac.jp

Abstract: The purpose of the study was to evaluate the prevalence of persistent hyperplastic primary vitreous (PHPV). We retrospectively analyzed 7, 856 patients at our hospital for health screening during the 1-year period. All patients, including 4, 421 men and 3, 435 women, were analyzed using fundus photographs. The overall prevalence of PHPV was found to be 0.064% (5/7, 856). Out of 5 patients with PHPV, 3 were men (3/4, 421; 0.068%), and 2 were women (2/3, 435; 0.058%). Among the patients who underwent health screening, the prevalence of PHPV was found to be 0.064%. These results may aid in explaining clinically rare conditions.
Keywords: Persistent hyperplastic primary vitreous, Persistent fetal vasculature, Prevalence, Health screening

INTRODUCTION

Persistent hyperplastic primary vitreous (PHPV) or persistent fetal vasculature is a rare congenital developmental malformation of the eye and is caused by the failure of regression of the primary vitreous [1-3]. PHPV is characterized by microphthalmia, a shallow anterior chamber, elongated ciliary processes, a posterior subcapsular cataract and a fibrovascular stalk that extends from the optic disc to the lens to varying degrees [1-3]. In this study, we report the prevalence of PHPV.

MATERIALS AND METHODS

We conducted a retrospective survey of patients who visited the Jichi Medical University hospital for health screening from January 2014 through December 2014. A total of 7, 856 patients, including 4, 421 men and 3, 435 women, were analyzed using fundus photographs taken with a non-mydriatic fundus camera.

RESULTS

The overall prevalence of PHPV was 0.064% (5/7, 856). Out of 5 patients with PHPV, 3 were men (3/4, 421; 0.068%), and 2 were women (2/3, 435; 0.058%) (Fig. 1).

Among 5 patients, one patient had Bergmeister papilla in one eye and PHPV in another eye (Fig. 2).

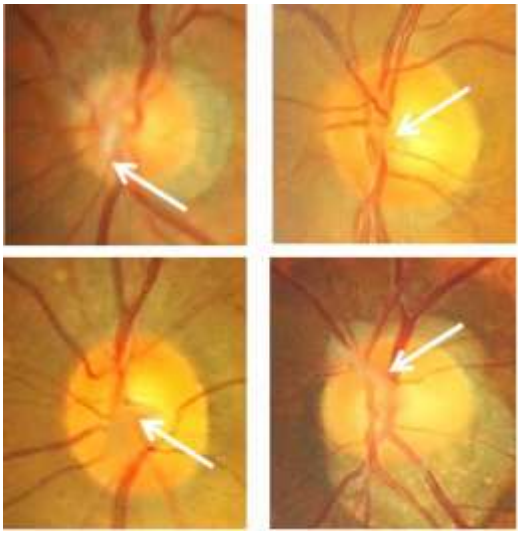

Fig. 1: PHPV in this study

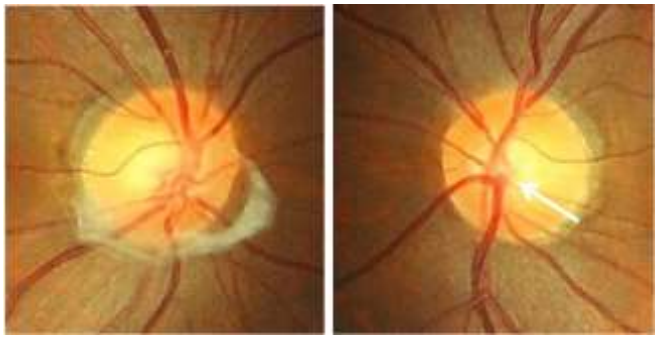

Fig. 2: Bergmeister papilla in the right eye (left) and PHPV in the left eye (right)

DISCUSSION

Congenital optic disc anomalies, such as prepapillary vascular loop, Bergmesiter papilla and PHPV are well known. We previously reported the prevalence of prepapillary vascular loop and Bergmesiter papilla was 0.115% [4] and 0.802% [5], respectively. To the best of our knowledge, there are no reports on the prevalence of PHPV in patients who underwent health screening. In present study, the overall prevalence of PHPV was 0.064%.

We previously reported a case of prepapillary vascular loop associated with PHPV in same eye [6].

Interestingly, there was a patient with Bergmeister papilla in one eye associated with PHPV in another eye in this study. Bergmeister papilla is derived from avascular remnants of the embryonic hyaloid system and is characterized by raised glial tissue in the optic disc surface [7, 8]. We considered that association between Bergmeister papilla and PHPV was significant from the point of view of embryonic hyaloid system.

CONCLUSION

These results may aid in explaining clinically rare conditions.

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