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### Background:

Depigmentation of trabecular meshwork develops in some patients in the course of Vogt–Koyanagi–Harada (VKH) disease. We previously reported that this depigmentation (Ohno's sign) is significantly correlated with the development of sunset glow fundus, however, not with limbal depigmentation (Sugiura's sign) or skin lesions.

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### Patients & Methods:

We performed retrospective review of 53 VKH patients (21 men, 32 women, average 41.0 years old) from 1991 to 2011 at Hokkaido University Hospital, Japan. The age at disease onset ranged from 20 to 71 years old. The average disease duration was 57.4 months (range 0-237). Trabecular meshwork and limbal depigmentation was investigated from June 2010 to September 2011. Each eighth of the trabecular meshwork pigmentation was scored from 0 to 4 based on Scheie classification, and all scores were summed up (maximum 32). In the same way, limbal pigmentation was scored from 0 to 2 (0: none, 1: mild, 2: severe), and all scores were summed up (maximum 8). Sunset glow fundus was scored from 0 to 2 (0: none, 1: mild, 2: severe). We then examined the correlations between trabecular meshwork or limbal pigmentation and sunset glow fundus score, age at disease onset or disease duration. Statistical analysis was performed using Spearman's Rank Correlation Coefficient or Pearson's Rank Correlation Coefficient.

### Results:

Trabecular meshwork depigmentation was correlated with the intensity of sunset glow fundus ( $p < 0.05$ ). Significant negative correlation was observed between trabecular meshwork depigmentation and age at disease onset ( $p < 0.05$ ), whereas limbal depigmentation showed no significance. There were no correlations between trabecular meshwork or limbal depigmentation and disease duration.

Figure 1. Correlation between trabecular meshwork pigmentation and sunset glow fundus score.

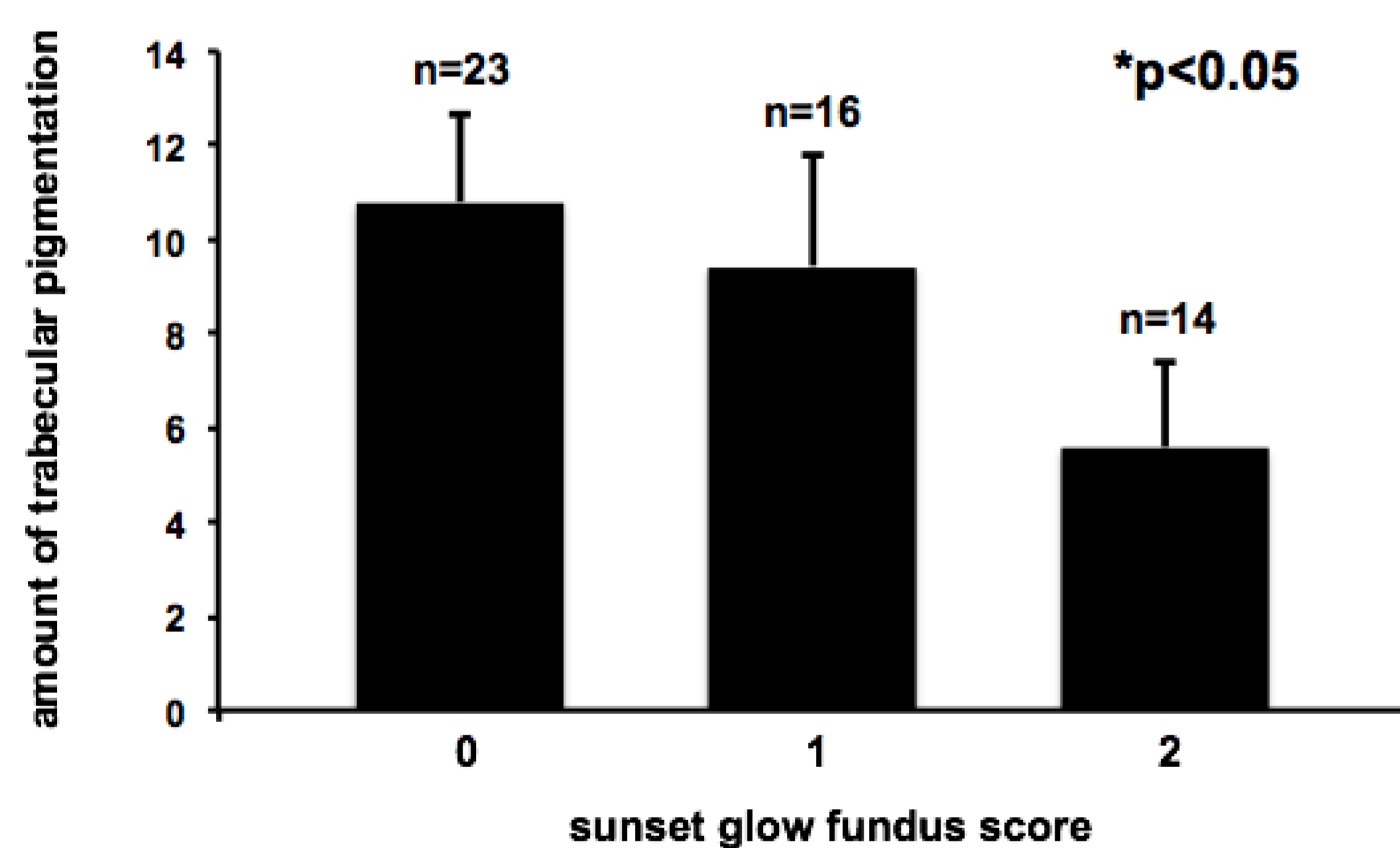


Figure 2. Correlation between trabecular meshwork pigmentation and age at disease onset.

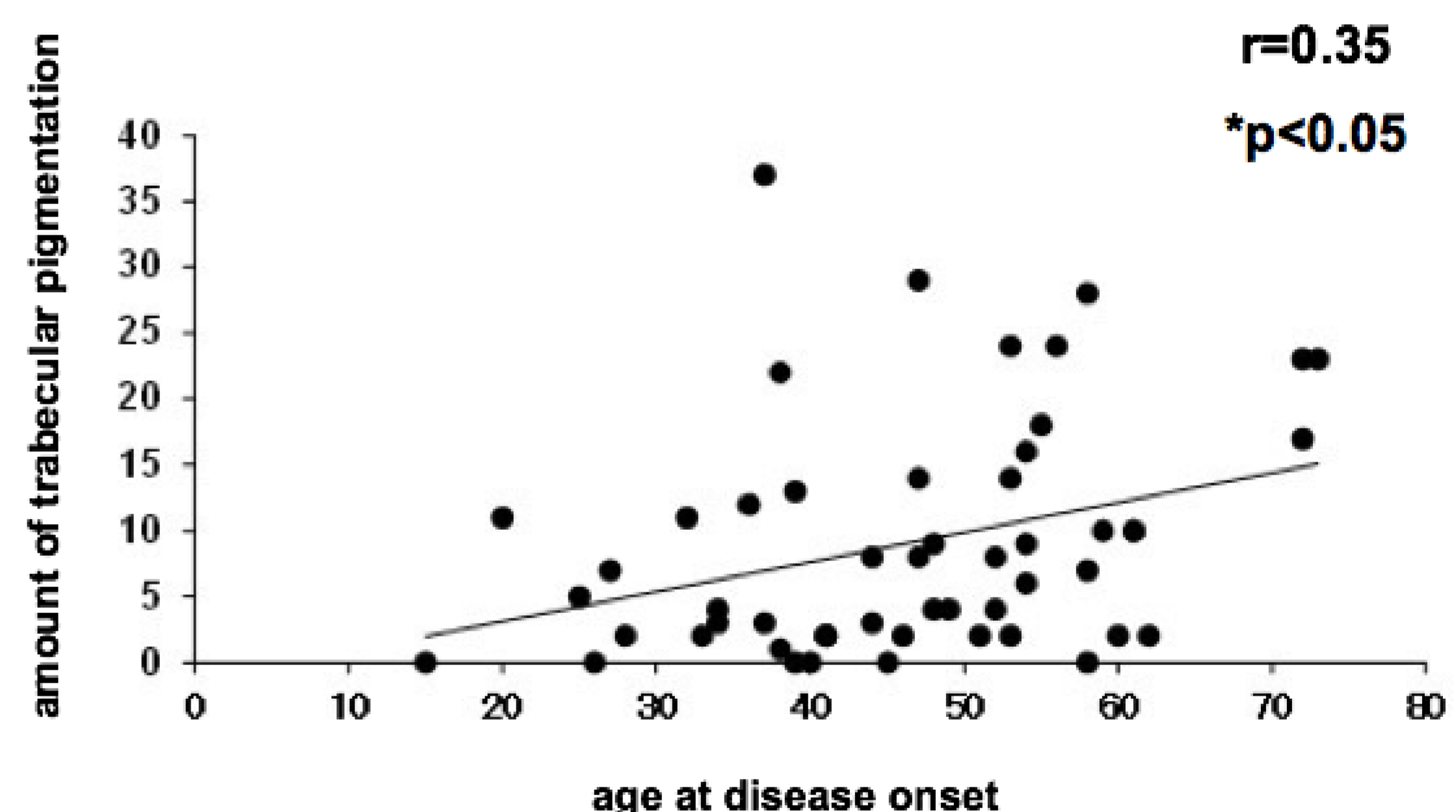
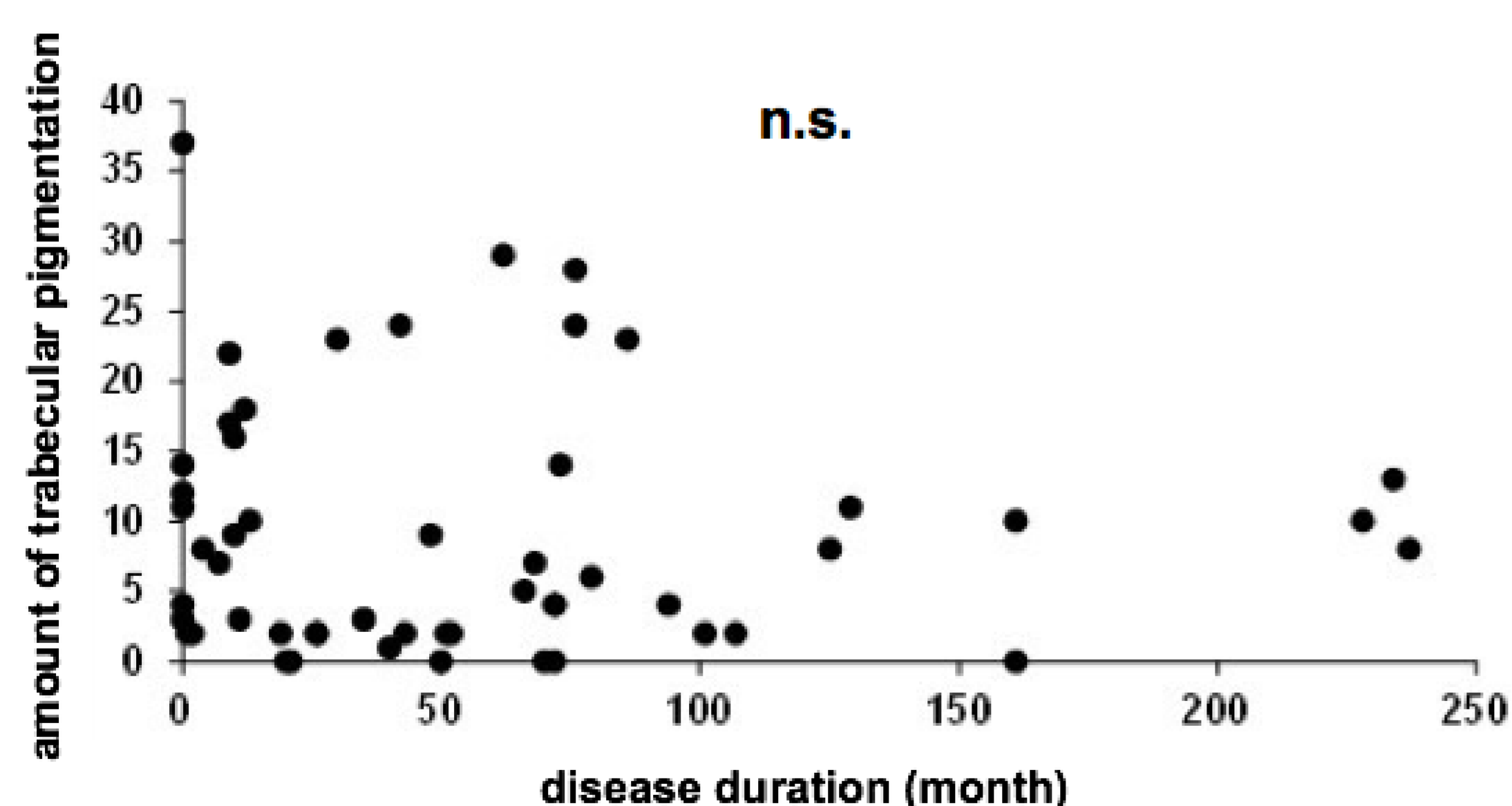


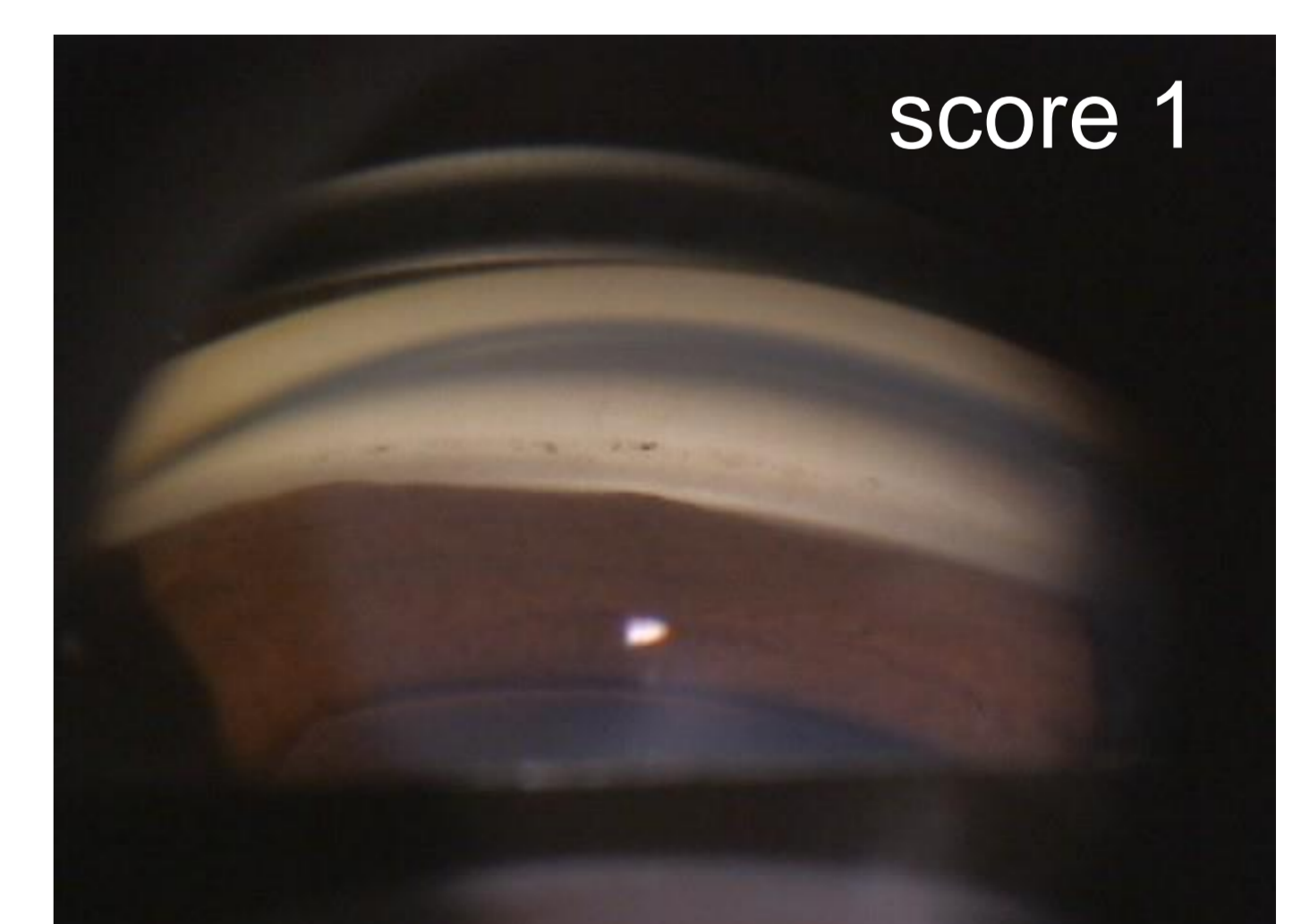
Figure 3. Correlation between trabecular meshwork pigmentation and disease duration.



### Case: trabecular meshwork depigmentation

A 40 year-old man with prolonged inflammation

1 month after initial visit → 19 months later



### Comments:

We speculate that trabecular meshwork and choroid are commonly affected at the same time by T-cell mediated autoimmune reaction against melanocyte-related antigens leading to depigmentation of the tissue by phagocytes.

Immunological reaction may be more intense in younger patients.

Prolongation of intraocular inflammation is also an important issue in VKH disease, but we could not find any significant differences between trabecular meshwork or limbal pigmentation and prolongation (data not shown).

Further serial examinations are required, and other parameters, e.g., genetic background, types of disease, severity of inflammation, and recurrence of the disease, may also be analyzed in the future.

### Conclusions:

Trabecular meshwork depigmentation is likely to be affected in young patients with VKH disease.