findings are in contrast to previous population-based studies in children and adults. Gopinath et al. (2010) observed in 1700 children with an age of 12-years that former low birthweight newborns had narrower retinal arterioles which is in accordance to other investigations in children (Mitchell et al. 2008). For adult individuals, an association between birthweight and retinal arteriolar calibre but not with retinal venular calibre was reported. The authors found an arteriolar calibre narrowing of 2.4 μm for each kg which was still significant after adjusting for multiple covariates including average arterial blood pressure measurement over 6 years (Liew et al., 2008). These results are in contrast to our data which may be caused by our younger cohort and potentially stricter blood pressure treatment regimes in the last years.

Our results are limited because 46% of all participants did not report their birthweight at study entry (Fieß et al. 2019). In addition, birthweight was self-reported and not validated by reviewing individual charts. Furthermore, missing data about gestational age and postnatal occurrence of retinopathy of prematurity may be confounders which have to be considered when interpreting our data.

In summary, this large population-based study shows no association between lower birthweight and central retinal venular equivalents, while the association for central retinal arterial equivalent was weakened by arterial blood pressure.

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Severe outcome of idiopathic inflammatory mass lesions primarily located in the posterior orbit and orbital apex

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Editor,

Idiopathic orbital inflammation (IOI) is a heterogeneous noninfectious inflammatory process that causes a mass or an enlargement of orbital

Table 1. Patient and disease characteristics based on visual outcome.

Variable	All	Visual outcome <0.5	Visual outcome ≥0.5
Total patients, *n*	8	5	3
Age (year), mean (SD)	66.3 (14.2)	74.2 (12.1)	53.0 (3.3)
Sex (female), *n*	3 (38%)	1 (20%)	2 (67%)
Diabetes, *n*	3 (38%)	3 (60%)	–
BCVA at presentation (decimal), *n*			
NLP	3 (38%)	3 (60%)	–
LP–0.05	2 (25%)	1 (20%)	1 (33%)
0.05–0.5	1 (13%)	–	1 (33%)
0.5–0.7	2 (25%)	1 (20%)	1 (33%)
Total ophthalmoplegia, *n*	3 (38%)	1 (20%)	2 (67%)
IOP ipsilateral, mean (SD)	18.2 (6.6)	13.8 (1.5)	24.3 (6.0)
IOP contralateral, mean (SD)	17.3 (3.9)	14.8 (1.6)	20.6 (3.4)
Motility reduction, *n*			
Moderate	3 (38%)	2 (40%)	1 (33%)
Severe	5 (63%)	3 (60%)	2 (67%)
Modified Werner criteria, median (IQR)	23 (20–26)	24 (21–26)	23 (20–25)
Onset to ophthalmologist (days), median (IQR)	22 (6–75)	15 (6–62)	22 (14–64)
Treatment, *n*			
Oral prednisone only	2 (25%)	1 (20%)	1 (33%)
IV MP + oral prednisone	6 (75%)	4 (80%)	2 (67%)
Additional treatment, *n*	2 (25%)	1 (20%)	1 (33%)
Initial response, *n*			
Visual improvement	3 (38%)	–	3 (100%)
Pain improvement	7 (88%)	5 (100%)	2 (67%)
Motility improvement			
Follow-up time (months), median (IQR)	18 (7–30)	8 (3–45)	22 (18–24)
Visual (decimal) and clinical outcome, *n*			
NLP	5 (63%)	5 (100%)	–
LP–0.05	–	–	–
0.05–0.5	–	–	–
0.5–1.0	3 (38%)	–	3 (100%)
Residual pain (mild)	2 (25%)	1 (20%)	1 (33%)
Residual pain (moderate/severe)	3 (38%)	2 (40%)	–

BCVA = best corrected visual acuity, IOP = intraocular pressure, IQR = interquartile range, LP = light perception, MP = methylprednisolone, *n* = number, NLP = no light perception.

structures, and is a diagnosis of exclusion (Mombaerts et al. 2016). The orbital localization of IOI can influence the disease course and the clinical characteristics (Lee et al. 2020). The diagnostic process of IOI can be challenging due to the heterogeneous nature, with diagnostic overlap compared to other orbital conditions. Histopathological assessment of the affected tissue is recommended for nonmyositis IOI (Mombaerts et al. 2017), although lesions isolated to the posterior orbit can be difficult to approach. As suggested in previous work (Li et al. 2013) and in our own experience, posterior IOIs tend to have a severe clinical presentation with poor outcome. We therefore investigated patients with suspected posterior IOI and compared characteristics between cases with a favourable or unfavourable outcome.

The posterior orbit was defined as the most posterior 1/3rd of the orbit and could include posterior extension. From a single centre cohort of 176 patients with suspected IOI of a tertiary referral centre for orbital disease in the Netherlands, eight patients with isolated posterior involvement were included. Of these, seven patients had histopathologically confirmed diagnosis of IOI, while in one patient biopsy was not deemed possible and was diagnosed as suspected IOI based thorough clinical, radiological and laboratory examination. The median duration between symptom onset and presentation was 22 days (range 4–483 days). All patients received standard corticosteroid treatments (i.e. intravenous pulse therapy of 500–1000 mg per day for 3 days) with additional (immunosuppressive, i.e. Rituximab) therapy on clinical indication. Although seven patients reacted on therapy positively with a reduction of pain, five patients were regarded as having an unfavourable outcome overall with a visual acuity of <0.5 decimal. Characteristics of the patients are shown in Table 1. Two patients with an unfavourable visual outcome had an IOI related death; the first patient did not respond to treatment and developed a severely painful blind eye, with persisting pain after enucleation and suicide in combination with a concurrent mental health condition. The second patient suffered from a subarachnoid haemorrhage because of IOI ingrowth into the cavernous sinus and internal carotid artery as shown by autopsy.

Although the outcome groups are too small to perform statistic testing, patients with a more severe outcome were generally older, presented with a lower visual acuity and were diabetic in the majority of cases (Table 1). Posterior IOI tends to have a serious clinical presentation with severe orbital pain, loss of visual acuity and poor visual outcome after treatment. Although initial treatment can be effective to reduce pain, visual acuity improvement is often absent.

In contrast to the typical Tolosa-Hunt syndrome, in which visual acuity is usually not affected, the majority of patients in our study presented with, or resulted in, a poor visual acuity. Tolosa-Hunt syndrome is most commonly described as a granulomatous inflammatory condition that affects the orbital apex, superior orbital fissure and cavernous sinus (Lueck 2018). The distinction between an isolated posterior IOI and Tolosa-Hunt, however, can be unclear (Lueck 2018).

Once IOI of the posterior orbit is diagnosed, treatment should be ensued rapidly in our opinion. In almost all our cases, there was initial relief of pain on high-dose steroid treatment. However, visual acuity did not improve, and deteriorated further in some patients. We believe that this is due to lasting mass effect on the tissues surrounding the optic nerve and cranial nerves within the tight space of the orbital apex, even after decongestion by steroids. Therefore, steroid treatment alone is not always sufficient for treating posterior IOI. Further research in

early and aggressive management strategies for posterior IOI is warranted.

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