although the advent of newer endovascular treatments has improved overall outcomes.\(^1\)\(^2\)\(^3\) In complex lesions with numerous arterial feeding arteries, multiple therapeutic embolizations may be required to definitively cure these life-threatening fistulae. Our case illustrates that children with potentially life-threatening intracranial vascular abnormalities may first visit the ophthalmologist with seemingly benign symptoms, making prompt diagnosis and treatment essential.

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**Financial Disclosure:** None reported.


**Vicarious Menstruation in Primary Localized Conjunctival Amyloidosis**

Recurrent subconjunctival hemorrhage has been found to occur in various circumstances, including in primary conjunctival amyloidosis.\(^1\) It usually occurs spontaneously and warrants ocular and systemic examination. However, if it occurs precisely every month in association with menstruation, then it may be termed vicarious menstruation.

**Report of a Case.** A 30-year-old woman had an 8-year history of unilateral recurrent subconjunctival hemorrhaging that commenced each month on the first day of her menstrual cycle and cleared after 7 to 10 days. The monthly timing of the bleeding was so precise that she found it a reliable indicator for day 1 of each menstrual cycle. The initial onset of symptoms appeared to have occurred shortly after the birth of her first child. Examination revealed a fleshy, thickened, discrete conjunctival mass in the inferior fornix (Figure 1). This appearance raised the suspicion of conjunctival lymphoma or amyloid; hence, a biopsy and debulking of the lesion were performed.

**Histological studies of the biopsy specimen revealed findings consistent with conjunctival amyloidosis (Figure 2).** Light microscopy did not reveal any ectopic endometrial tissue. There was no significant inflammatory response, nor was there any vascular or lymphatic channel abnormality.

**Systemic examination and laboratory investigations (including serum amyloid measurement) for evidence of systemic amyloid disease had results that were unremarkable, suggesting that the amyloid deposition was most likely primary and localized in nature.** Use of an oral contraceptive pill to regulate hormone levels had no effect on the timing, frequency, or duration of the subconjunctival hemorrhage. Debulking of the lesion resulted in cessation of the hemorrhaging.

However, identical cyclical symptoms recurred 2 years later when the mass regained its size, requiring further debulking.

**Comment.** The close association between the size and existence of the amyloid mass with the incidence of the subconjunctival hemorrhages, in addition to the laterality of the signs, suggests that amyloid deposition was responsible for the bleeding. The recurrent hemorrhages may well have been due to amyloid in the blood vessel walls in a similar fashion to purpura found in primary systemic amyloidosis. However, the timing suggests that the microangiopathy was responsive to hormonal fluctuations of the menstrual cycle. Although serum amyloid P component levels are known to fluctuate with hormonal changes,\(^2\) this was not found to be the case in our patient. On the other hand, the hemorrhages could have been due to physiological vascular changes that occur in menstruation confounded by the localized amyloid; hence, debulking of the lesion was merely reducing the vascularity of the conjunctival mass. However, histological evidence showed that the lesion was not a highly vascular structure, implying that the vessels were merely more prone to bleeding.

**Subconjunctival hemorrhages have been found to occur in pri-**

![Figure 1. Subconjunctival mass in inferior fornix.](https://example.com/image.png)
mary localized conjunctival amyloidosis. Ocular and conjunctival vicarious menstruation has also been described in the literature on many occasions. This case is a unique combination of both, which has not been previously reported to our knowledge. The management in such a scenario is essentially surgical, as hormone regulation does not seem to be of much benefit.

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Financial Disclosure: None reported.