How often should I examine a child with juvenile idiopathic arthritis?

S. Androudi,[1] C. Kalogeropoulos[2]

Abstract

Unlike the joints, ocular involvement with juvenile rheumatoid arthritis is most often asymptomatic; yet, the inflammation can cause serious morbidity with loss of vision. Overall, the frequency varies from 2% to 34% in children with JIA.[1] The onset is usually asymptomatic (in over 50%) and therefore screening by slit-lamp is essential for diagnosis. Children with JIA remain at risk of developing uveitis into adulthood. There are reports of uveitis diagnosed initially more than 20 years after onset of arthritis.[1] The activity of the uveal inflammation does not parallel that of the joint disease.[2] The onset of ocular inflammation is insidious and asymptomatic in most young children.[1] Because of the lack of symptoms or the cognitive recognition by the child, the exact time of onset of ocular involvement is frequently difficult to determine. This observation emphasizes the requirement for slit-lamp examination by an ophthalmologist at diagnosis of JIA and periodically thereafter. Early detection and treatment can prevent the development of complications and can prevent permanent visual impairment. These complications are more frequent and more severe in younger children and are often asymptomatic. The most frequent cause of avoidable morbidity remains missed or inadequate examinations[2] in the first year of disease and all efforts must be made to achieve early and thorough early examinations.

Key words: Juvenile idiopathic arthritis, uveitis, periodical examination.

1. University of Thessali
2. University of Ioannina

Corresponding author: S. Androudi
e-mail: androudi@otenet.gr

PRINCIPLES

1) **Initial screening examination** Uveitis often starts soon after onset of arthritis but may also start before the arthritis. **The initial screening examination is therefore a clinical priority** and should occur as soon as possible and no later than 6 weeks from referral rather than waiting for the first available appointment.

2) **Symptomatic patients** or patients suspected of cataracts or synechiae should be seen within a **week** of referral.

3) **Parent information** Parents and caregivers of children with JIA need to be fully informed about the possibility of uveitis and that this is usually an asymptomatic condition until complications arise. They should be instructed to seek medical assessment **urgently** if their child develops visual symptoms or signs such as red eyes, photophobia, abnormal pupils, corneal clouding, or visual impairment. In younger children this may be manifest by unusual blinking, eye rubbing, visual inattention or preferential attention on auditory

signals, or a new onset squint.

4) **Training** Ophthalmologists and other health professionals carrying out uveitis screening should be appropriately trained and experienced. They should have facilities to audit the outcomes of their screening program. Parents must be fully informed about the method of screening and the need to attend for specific uveitis screening examinations on a regular basis. Arrangements need to be in place to give priority to rebooking of any missed appointments in this group with a system of contacting non-show appointments.

5) **Older patients**. Older teenage patients need to be told to return quickly should they become symptomatic. If there is concern about their reliability then they should be considered for longer term less frequent screening.

6) **On stopping immunosuppressant treatment such as Methotrexate** Patients who have been treated with methotrexate for their arthritis may not have developed uveitis due to drug-related immunosuppression. However after methotrexate is stopped uveitis may flare. Screening should therefore restart at 2 monthly intervals after stopping Methotrexate or any other immunosuppressant therapy during the period of maximum risk for 6 months before reverting to the previous screening arrangements.

The suggested frequency of ophthalmologic visits for children with JIA without known uveitis at diagnosis and during follow-up is presented in Table 1. It is unclear how often children with JIA should be screened for this complication. From a review of the literature, the following recommendations can be proposed:[3] If uveitis is not detected initially, all children with JIA should be screened by slit lamp examinations every 3-4 months for the first 5 years after arthritis onset. After 5 years, screening could be stopped. The only exceptions would be arthritic children at low risk for uveitis, including systemic onset JIA, juvenile spondyloarthropathy and juvenile onset rheumatoid arthritis, who do not need to be screened if the initial slit lamp examination is normal. However, there may be delay in being certain about the diagnosis or exact category of JIA, and overlaps between groups do occur.

When a patient is discharged from the regular screening program it is vital to stress to them that they and the family are now deemed able to detect any changes in their vision which may signify a new onset or flare of uveitis. It does NOT mean that their risk of uveitis has gone completely. A tip for family self monitoring is to remind the young patient to self-check the vision i.e. by reading small print with each eye once a week. Monitoring may need to continue indefinitely if there are other reasons such as learning difficulties or treatment non-compliance when the young person may be unable to detect a change in vision or unwilling to seek re-referral.[5]

TABLE 1 *Frequency of Ophthalmologic Examination in Patients With JIA*

Type	ANA	Age at Onset, y	Duration of Disease, y	Risk Category	Eye Examination Frequency, mo
Oligoarthritis or polyarthritis	+	≤6	≤4	High	3
	+	≤6	>4	Moderate	6
	+	≤6	>7	Low	12
	+	>6	≤4	Moderate	6
	+	>6	>4	Low	12
	–	≤6	≤4	Moderate	6
	–	≤6	>4	Low	12
	–	>6	NA	Low	12
Systemic disease (fever, rash)	NA	NA	NA	Low	12

ANA indicates antinuclear antibodies; NA, not applicable.
Recommendations for follow-up continue through childhood and adolescence.
Modified from Cassidy J, Kivlin J, Lindsley C, Nocton J. Ophthalmologic examinations in children with juvenile rheumatoid arthritis. Pediatrics 2006;117:1843-1845.[4]

References

1. Rosenberg IS. Uveitis associated with childhood rheumatic diseases. Curr Opin Rheumatol 2002; 14:542–547.

2. Cimaz RG, Fink CW. The articular prognosis of pauciarticular onset juvenile arthritis is not influenced by the presence of uveitis. J Rheumatol 1996; 23:357–359.

3. Southwood TR, Ryder CA. Ophthalmological screening in juvenile arthritis: should the frequency of screening be based on the risk of developing chronic iridocyclitis? Br J Rheumatol 1992; 31:633-634.

4. Cassidy J, Kivlin J, Lindsley C, Nocton J. Ophthalmologic examinations in children with juvenile rheumatoid arthritis. Pediatrics 2006; 117:1843-1845.

5. Guidelines for Screening for Uveitis in Juvenile Idiopathic Arthritis (JIA) Produced jointly by BSPAR and the RCPOphth 2006.