

# Extracapsular cataract extraction with posterior chamber lens implantation in Fuchs's heterochromic cyclitis

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## Abstract

Twenty-two patients with Fuchs's heterochromic cyclitis had a posterior chamber intraocular lens implanted after extracapsular cataract extraction. After a mean follow-up period of 2.5 years (range, 6 to 70 months) half the patients had a visual acuity of 1.0 or more. The results compare favourably with those in the general population.

Although Fuchs in 1906 was not the first to report patients with cataract in eyes of lighter colour than their fellows, Lawrence having preceded him in 1843, his study of 38 cases was the most extensive and established the essential features of the syndrome bearing his name: mild cyclitis, change in colour of the iris, absence of synechiae, presence of fine keratic precipitates, and the preservation of vision except for the common development of complicated cataract.

Most, if not all, patients with Fuchs's heterochromic cyclitis develop some degree of cataract.<sup>1,2</sup>

It has been observed that (intracapsular) cataract extraction in these patients has a relatively good prognosis. Brückner and Meisner<sup>3</sup> wrote in 1929 (trans): 'Operation of this form of (strictly speaking) cataracta complicata mostly has a good result. The eyes endure the operation without much reactive inflammation. . . . One must be somewhat reserved about the prognosis for vision because of the often present vitreous opacities which are not visible before the operation because of the cataract.' Their impression is supported by more recent studies,<sup>4,5</sup> though less favourable results have also been published.<sup>6-8</sup>

Little is known about the additional risks of intraocular lens implantation in these patients. Following the recent study of Gee and Tabbara<sup>9</sup> we report here a retrospective analysis of the visual acuity results as well as the surgical and postoperative complications in 22 patients with Fuchs's heterochromic iridocyclitis who underwent an extracapsular cataract extraction with implantation of a posterior chamber intraocular lens.

## Patients and methods

The population of the Uveitis Policlinic of the Rotterdam Eye Hospital was screened for all patients who met the following criteria: (1) Fuchs's heterochromic cyclitis; (2) extracapsular cataract extraction with implantation of a posterior chamber intraocular lens; (3) no previous surgery; and (4) a minimal follow-up period of six months.

Thirty-eight patients with Fuchs's heterochromic cyclitis had to be excluded. Four underwent an intracapsular cataract extraction with or without lens implantation; seven had an extracapsular cataract extraction without lens implantation; in two the follow-up period was too short; and the remaining 25 patients were not operated on at all. We finally obtained 22 patients, and our retrospective analysis is based on them.

All patients were admitted to hospital and received indomethacin and phenylephrin eye-drops one day preoperatively. Surgery was under local anaesthesia in three patients and under general anaesthesia in the other 19 patients.

After preparation of a fornix based conjunctival flap, limbal incision, capsulotomy, nuclear expression, and manual aspiration/irrigation of the remaining cortex, a Pearce one-piece polymethyl methacrylate (PMMA) posterior chamber lens was inserted. In 14 patients sodium hyaluronate (Healonid) was used during capsulotomy and at the time of lens insertion. The incision was closed with one 10-0 nylon running suture. In some patients surgery was completed with a parabolbar injection of gentamicin 20 mg in combination with betamethasone 4 mg.

Postoperatively all patients were treated with indomethacin eyedrops and gentamicin/dexamethasone eyedrops, both three times a day. All patients were discharged on the fourth postoperative day.

## Results

Twenty-two patients received a posterior chamber intraocular lens after extracapsular extraction. The group consisted of nine women and 13 men, ranging in age from 14 to 81 years, mean 42 years. Most patients had a posterior subcapsular type of cataract. Preoperative visual acuity ranged from light perception to 0.5. Fourteen patients had a visual acuity of less than 0.1. One patient used antiglaucoma eyedrops prior to operation.

Patients have been followed up for six to 70 months, mean 32 months, after operation. The preoperative follow-up ranged from three to 20 years, mean 10 years.

After extracapsular cataract extraction with posterior chamber intraocular lens implantation the visual acuity improved in all patients except one. Eleven patients (50%) obtained a visual acuity of 1.0 or more, while in three patients (14%) visual acuity was less than 0.5 at the last follow-up visit.

As regards surgical and postoperative complications (Table 1), we observed two patients with small transient anterior chamber

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Table 1 Surgical and postoperative complications (%)

Complication	A*	B	C	D
Anterior chamber haemorrhage	9	13	4	1.3
Vitreous loss/capsular rupture	5	0	0	2.4
Miosis	9	—	—	—
Posterior capsule opacification	18	—	4	15
Postoperative glaucoma	9	0	0	0.5
Posterior synechiae	14	0	19	2.0
Clinical persistent cystoid macular oedema	0	0	22	0.6
Retinal detachment	0	0	0	1.1.5
Endophthalmitis	0	0	0	0.2
Postoperative VA less than 0.5	5	0	15	5-10
Postoperative VA 1.0 or more	50	27	26	65
Fibrinous reaction	5	0	—	0.6

\*A: Eye Hospital 1990, n=22. B: Gee and Tabbara,<sup>9</sup> n=15: Fuchs's heterochromic cyclitis. C: Foster *et al.*,<sup>10</sup> n=27: other types of uveitis. D: Fagadau *et al.*,<sup>11</sup> Guzek *et al.*,<sup>12</sup> Stark *et al.*,<sup>13</sup> Smith *et al.*,<sup>14</sup> Ohrlhoff *et al.*,<sup>15</sup> O'Donnell and Santos:<sup>16</sup> general population.

haemorrhages during surgery. In two patients there was a positive vitreous pressure, and in one patient a capsular rupture with vitreous loss. In two patients it was necessary to make an iridotomy, because it was impossible to widen the pupil sufficiently owing to previous antiglaucoma medication with miotics.

In two patients we observed a secondary glaucoma which was not present preoperatively. The pressures were well controlled by topical medication. Ten patients developed some degree of posterior capsule opacification. In four of them this was successfully treated with Nd-YAG laser capsulotomy. In four patients there was impairment of visual acuity (to the level of 0.4 to 0.5) due to vitreous opacities. One patient had a postoperative visual acuity of 0.1 because of visual field loss due to glaucoma.

We did not encounter any case of retinal detachment, endophthalmitis, or persistent clinical cystoid macular oedema.

## Discussion

Cataract is one of the most prominent signs of Fuchs's heterochromic cyclitis. So much so that Fuchs in his textbook discussed it in a chapter about diseases of the lens and called it: 'Cataracta in oculo coeruleo oder heterochromiekatarakt'.

In an attempt to answer the question: Is extracapsular cataract extraction with implantation of a posterior chamber intraocular lens a justifiable procedure in patients with Fuchs's heterochromic cyclitis? we compared our results with the results of extracapsular cataract extraction with posterior chamber lens implantation in other series of patients.

We selected three kinds of studies: patients with Fuchs's heterochromic cyclitis,<sup>9</sup> patients with other types of uveitis,<sup>10</sup> and patients from the general population.<sup>11-16</sup> A comparison with intracapsular operated patients was not done.

The final visual acuity in our patients is comparable with that of the general population. Half our patients achieved a visual acuity of 1.0 or more versus 65% of the general population. But in Fuchs's heterochromic cyclitis there is an increased risk of anterior chamber haemorrhage, postoperative glaucoma, posterior synechiae, and a postoperative fibrinous reaction. The

anterior chamber haemorrhage (Amsler's sign) was in both cases small and transient. It never interfered with the operation. In two patients who needed an iridotomy, miosis was due to previous antiglaucoma medication. The high incidence of postoperative glaucoma is in our opinion not related to surgery, since in the natural course of Fuchs's heterochromic cyclitis 15-18% patients develop glaucoma.<sup>12</sup> We cannot explain the occurrence of posterior synechiae after surgery.

Our group of patients is probably too small to detect any increased risk for persistent cystoid macular oedema, retinal detachment, or endophthalmitis as compared with the incidence in the general population.

It is difficult to compare our results with those in patients with other types of uveitis. Foster *et al.*<sup>10</sup> did an extracapsular cataract extraction with intraocular lens implantation in 27 patients with uveitis, including one patient with Fuchs's heterochromic cyclitis. The postoperative visual acuity was 1.0 or more in only 26% of the patients. There was also a relatively high incidence of persistent clinical cystoid macular oedema. So the visual prognosis after cataract surgery seems to be better in patients with Fuchs's heterochromic cyclitis than in patients with other types of uveitis. One has to take into account, however, that all the patients reported on by Foster *et al.*<sup>10</sup> had a visual acuity of 0.1 or less preoperatively.

When we compare our results with those of Gee and Tabbara,<sup>9</sup> the most striking difference is the better visual outcome. There are at least two possible explanations for this. First, all our patients had an intraocular lens implanted, while a third of their patients did not; and, secondly, there was a difference in preoperative visual acuity. 68% of our patients had a preoperative visual acuity of 0.1 or less versus 93% of their patients.

## CONCLUSION

Implantation of a posterior chamber intraocular lens is a justified procedure after extracapsular cataract extraction in patients with Fuchs's heterochromic cyclitis. It does not constitute an additional risk. Or in the words of Fuchs himself (trans)<sup>17</sup>: 'These cases are generally not complicated by underlying disease and can be operated upon with good results'.

- 1 Dernouchamps JP. Fuchs' heterochromic cyclitis: an IUSG study about 550 cases. In: Saari KM, ed. *Uveitis update*. Amsterdam: Excerpta Medica, 1984: 129-35.
- 2 Loewenfeld IE, Thompson HS. Fuchs' heterochromic cyclitis: a critical review of the literature. I. Clinical characteristics of the syndrome. *Surv Ophthalmol* 1973; 17: 394-457.
- 3 Brückner A, Meisner W. *Grundriss der Augenheilkunde*. 2nd ed. Leipzig: Thieme, 1929.
- 4 Smith R, O'Connor R. Cataract extraction in Fuchs syndrome. *Arch Ophthalmol* 1974; 91: 39-42.
- 5 Mills KB, Rosen ES. Intraocular lens implantation following cataract extraction in Fuchs' heterochromic uveitis. *Ophthalmic Surg* 1982; 13: 467-9.
- 6 Liesegang TJ. Clinical features and prognosis in Fuchs' uveitis syndrome. *Arch Ophthalmol* 1982; 100: 1622-6.
- 7 Ward DM, Hart CT. Complicated cataract extraction in Fuchs' heterochromic uveitis. *Br J Ophthalmol* 1967; 51: 530-8.
- 8 Norn MS. Cataract extraction in Fuchs' heterochromia. *Acta Ophthalmol (Kbh)* 1968; 46: 685-99.
- 9 Gee SS, Tabbara KhF. Extracapsular cataract extraction in Fuchs' heterochromic iridocyclitis. *Am J Ophthalmol* 1989; 108: 310-4.

- 10 Foster CS, Fong LP, Singh G. Cataract surgery and intraocular lens implantation in patients with uveitis. *Ophthalmology* 1989; **96**: 281-8.
- 11 Fagadau WR, Maumenee AE, Stark WJ, Datiles M. Posterior chamber intraocular lenses at the Wilmer Institute: a comparative analysis of complications and visual results. *Br J Ophthalmol* 1984; **68**: 13-8.
- 12 Guzek JP, Holm M, Cotter JB, *et al.* Risk factors for intraoperative complications in 1000 extracapsular cataract cases. *Ophthalmology* 1987; **94**: 461-6.
- 13 Stark WJ, Maumenee AE, Fagadau W, *et al.* Cystoid macular edema in pseudophakia. *Surv Ophthalmol* 1984; **28** (suppl): 442-51.
- 14 Smith PW, Stark WJ, Maumenee AE, *et al.* Retinal detachment after extracapsular cataract extraction with posterior chamber intraocular lens. *Ophthalmology* 1987; **94**: 495-504.
- 15 Ohrloff C, Dardenne MU, Konen C, Sherif A. Erfahrungen mit den ersten 1400 Hinterkammerlinsenimplantationen nach Phacoemulsifikation. *Klin Monatsbl Augenheilkd* 1982; **181**: 253-6.
- 16 O'Donnell FE, Santos B. Posterior capsular-zonular disruption in planned extracapsular surgery. *Arch Ophthalmol* 1985; **103**: 652-3.
- 17 Fuchs E. *Lehrbuch der Augenheilkunde*. 16th ed. Vienna: Deuticke, 1939.

## FIFTY YEARS AGO

### A case of blue sclerotics

This case of blue sclerotics may be of interest to your readers. The association of deafness and liability to fracture of bones is well known, but there is some doubt as to whether the sclera is thin and so the choroid shows through, or is of normal thickness but transparent.

There was a history of deafness of the left ear of long standing, and of recent fractures of the femur on stepping off an omnibus. As far as she knows, none of her relatives is deaf, has blue sclerotics, or has sustained fractures. The patient was brought to me by her doctor, as she had almost lost the vision of her left eye. On examination the blue sclerotics in both eyes were very noticeable, the vision of the right eye was 6/6, and of the left perception of light only. The tension of the right eye was normal, but

that of the left was raised considerably. The field of vision of the right eye was normal. The patient is aged 46 years.

As the tension did not lessen with the use of miotics, I decided to trephine the left eye. Though I expected the sclera might be thin, I was surprised to find how very thin it proved to be. One complete turn of the Elliot's trephine was sufficient to cut through.

My object in reporting this case is not to discuss the treatment of the glaucoma, but to draw attention to the thinness of the sclera, and to the absence of stretching of the sclera with such an increased tension in an eye with so thin an outer coat. - Spencer Walker JP.

*Br J Ophthalmol* 1941; **25**: 383.



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