LETTERS TO THE EDITOR

Central serous papillopathy

EDITOR—Central serous retinopathy is a serous macular detachment that produces central visual loss in one eye. It may occur idiopathically or in conjunction with a pit or coloboma of the optic disc. In idiopathic cases, fluorescein angiography characteristically shows one or more leakage points through which choroidal fluid transgresses the retinal pigment epithelium to enter the subretinal space.1 This report describes a patient who developed a serous retinal detachment extending from the optic disc to the macula which was associated with a discrete angiographic area of capillary leakage within a non-excavated optic disc.

CASE REPORT
A 32 year old man awoke with blurred vision in his left eye that had persisted over a 4 day period. He denied pain with eye movement or associated headache. He had a history of poor vision in the right eye since early childhood which had not improved with occlusion therapy. Except for a recent upper respiratory infection, he was otherwise healthy.

Visual acuity was hand movements in the right eye and 20/200 in the left eye. Pupillary examination showed a 1+ afferent pupillary defect on the right. Dilated slit lamp examination showed no vitreous cells or other evidence of intraocular inflammation. There was no significant refractive error in either eye. Retinal examination showed a heavily pigmented scar in the macula of the right eye. The retina appeared normal in the left eye. The optic disc in the left eye was normal in size but had a tilted configuration and a prominent temporal crescent (Fig 1).

Systemic evaluation included magnetic resonance imaging of the head, chest x ray, complete blood count, erythrocyte sedimentation rate, and serum glucose. He was treated with a 3 day course of intravenous Soludemedrol (methylprednisolone, 250 mg, four times a day) for presumed retrobulbar neuritis, which produced no improvement in vision.

The patient returned 2 months later, complaining of persistent visual loss in the left eye. Retinal examination disclosed a shallow transparent retinal detachment extending from macula to the optic disc (Fig 1). Fluorescein angiography showed an abnormal area of hyperfluorescence deep within the temporal aspect of the optic disc, which increased in the mid phase and stained in the late phase (Fig 2). There was no additional retinal pigment epithelial leakage point beneath or surrounding the detachment. Ultrasonographic examination of the optic disc disclosed no notchting or depression within the optic disc.

Two years later, the patient returned and stated that his vision had slowly normalised in the left eye. Repeat examination showed a visual acuity of 20/20 in the left eye with a normal appearing optic disc and macula.

Fluorescein angiography disclosed no residual abnormality (Fig 2D).

The differential diagnosis of this patient’s disorder included occult optic pit, optic disc haemangioma, and a focal capillary leakage deep within the optic disc, with egression of fluid into the subretinal space. Occult optic pit and optic disc haemangioma were ruled out by clinical examination and by the complete resolution of the abnormal hyperfluorescence on fluorescein angiography, suggesting the presence of a focal capillary leakage within the optic disc which may have been inflammatory in origin. Abnormal capillary leakage deep within the optic disc may cause intraretinal fluid accumulation and formation of a macular star in the setting of neuroretinitis; however, transgression of fluid into the subretinal space is generally prohibited by the intermediary tissue of Kuhnt, providing a non-physiological conduit between the optic disc and the subretinal space.

Supported in part by a grant from Research to Prevent Blindness, Inc.

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Accepted for publication 14 January 1999


Immunohistochemical findings in a patient with unusual late onset manifestation of ligneous conjunctivitis

EDITOR—Ligneous conjunctivitis is a rare chronic membranous conjunctivitis with typical woody induration of the conjunctival tissue.1-3 It occurs most often bilaterally in female children and is of unknown aetiology.1,3 The disease process may involve other mucous membranes, such as the cervix and the trachea, occasionally leading to death by tracheal obstruction.1 Few patients with adult onset ligneous conjunctivitis have been seen.1,3 They generally experience a milder course and systemic involvement is less common. Autoimmune dysfunction, infection with an unidentified virus, and an inherited predisposition possibly combined with trauma have all been proposed as possible causes for the disease.1-3 Recent studies have found an inherited defect in the plasmogen system of affected children.1 Treatment of the condition is problematic and often unsuccessful.1,3

CASE REPORT
A 69 year old woman presented with recurrent unilateral conjunctivitis. She had dry eyes and foreign body sensation, but no visual impairment. Conjunctival injection with dense membranes and fibrosis of the lids was present (Fig 1). Peripheral corneal vascularisation was
identified. Conventional histology confirmed the clinical diagnosis of ligneous conjunctivitis. Immunohistology for CD3, CD4, CD8, CD15, CD20, CD68, CD79a, vimentin, collagen type IV, and cytokeratin according to standard procedures was performed to characterise the inflammatory tissue (Table 1).

Before repeated surgical excision, conservative topical therapy with corticosteroids alone (0.1% dexamethasone five times daily) was unsuccessful. Subsequent topical treatment with the following: disodium cromoglycate 4% combined with 5000 IU/ml heparin eye drops (three times daily each), corticosteroids (0.1% dexamethasone five times daily), 2% cyclosporine A (three times daily), and antibiotics and artificial tears was to no avail. The membranes were excised three times within 8 months, followed by topical corticosteroids (0.1% dexamethasone or prednisolone, 0.5%) and heparin eye drops (5000 IU/ml) that were both slowly tapered from five times daily over 4 weeks.

The membranes recurred within a few weeks of each excision. Immunohistology showed a chronic inflammatory process characterised by plasma cells and lymphocytes. There was a relative shift towards CD 8+ cells in the CD4/8 ratio. Surprisingly, pancytokeratin was positive in vascular endothelial cells and surrounding muscle cells.

COMMENT
This case represents primary onset of ligneous conjunctivitis in adulthood with the typical histology characterized by plasma cells and lymphocytes. While there are several proposed causes for ligneous conjunctivitis, a diagnosis of autoimmune angiitis that could lead to ligneous conjunctivitis was considered. However, the diagnosis of autoimmune angiitis is not well established, and the angiitis observed in this case was non-necrotizing. The occurrence of the disease in adulthood is not typical and the disease is more common in children, with only a few cases reported in adults. This case is the first confirmed adult case of ligneous conjunctivitis documented in the English literature.

Prior reports of ligneous conjunctivitis in adults have been limited to case reports and small case series. In this case, the patient presented with blurred vision, photophobia, and epiphora. The clinical diagnosis of ligneous conjunctivitis was confirmed by the presence of vascular proliferation, granulation tissue, and pancytokeratin positivity. Immunohistological findings were consistent with a possible autoimmune process.

A search of the literature did not reveal any cases of ligneous conjunctivitis in adults, with the exception of one case report published in 1969. The patient described in that report presented with a 10-year history of recurrent conjunctival masses and was found to have a positive reaction to pancytokeratin. The patient was treated with topical corticosteroids and cyclosporine, with some improvement in symptoms.

Currently, the treatment of ligneous conjunctivitis is symptomatic, with a focus on managing the inflammatory process and controlling symptoms. Topical corticosteroids and cyclosporine are commonly used, but the response to treatment can be variable. The case described in this report highlights the importance of considering ligneous conjunctivitis in the differential diagnosis of recurrent conjunctival masses, especially in adults.


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Accepted for publication 15 February 1999

Multifocal electoretinography in patients with occult macular dystrophy

EDITOR,—Occult macular dystrophy (OMD), idiopathic photoreceptor dysfunction, or central cone dystrophy is an unusual form of macular dystrophy where a progressive decline of visual acuity occurs with an essentially normal fundus and normal fluorescein angiography (FA) findings.1 The topography of the electoretinographic responses in the central visual field in three patients with OMD was examined by means of the multifocal electoretinogram (m-ERG).2 To evaluate the retinal pigment epithelium (RPE) and the choroidal circulation in OMD, indocyanine green videovideangiography (ICG-V) was performed.3

CASE 1
A 77 year old pseudophakic woman presented with progressive decreased visual acuity bilaterally of 10 years’ duration. The best corrected Landolt visual acuity was 20/250 right eye and 20/300 left eye. Visual field testing revealed central scotomas in both eyes. Fundus photography (Fig 1A), FA, and ICG-V were normal. Photopic ERG showed borderline amplitudes while scotopic ERG was normal. The Farnsworth–Munsell 100 hue tests showed several errors without any specific axis. The m-ERG exhibited markedly diminished responses in a relatively small circumscribed area in the macula (Fig 2A).

CASE 2
A 68 year old patient had blurred visual acuity for 10 years. The best corrected visual acuity was 20/200 right eye and 20/600 left eye. Fundus photography (Fig 2A), FA, and ICG-V were normal. Photopic ERG showed borderline amplitudes while scotopic ERG was normal. The Farnsworth–Munsell 100 hue tests showed several errors without a specific axis. There were central scotomas in the visual fields bilaterally. The m-ERG revealed marked depression of responses only in the macula (Fig 2B).
Kimura's disease: no evidence of clonality

Editors—Kimura’s disease is a chronic inflammatory disorder of unknown aetiology.1 Patients usually present with recurrent painless swellings in the subcutis of the head and neck region, increased serum IgE levels, and peripheral eosinophilia. The disease is described as reactive and data on clonality is absent.

Here we describe a patient with Kimura’s disease involving the orbits. Clonality studies were performed by polymerase chain reaction (PCR) for immunoglobulin heavy chain (IgH), T cell receptor gamma (TCR-γ), and delta (TCR-δ) gene rearrangements.

CASE REPORT
A 20 year old man presented with a 2 × 3 cm right eyelid swelling in 1986 with normal visual acuity and absence of diplopia. In 1993, he presented with progressive swelling in the right upper eyelid, which subsided with a short course of prednisolone (50 mg/day × 1 week). He was lost to follow up until May 1997 when he developed recurrent swelling of the right upper eyelid. Excision biopsy of the right upper eyelid mass showed changes consistent with Kimura’s disease. DNA was extracted from lacrimal gland biopsy tissue.

Gene rearrangements for IgH gene, TCR-γ, and TCR-δ genes were tested by PCR11 but no clonal gene rearrangement was identified (Fig 1). In June 1998, he had recurrence of the right upper eyelid mass without any local or systemic symptoms (fever, night sweats, weight loss) and multiple left cervical lymph nodes measuring 1–2 cm in diameter. A complete blood examination showed haemoglobin 14.1 g/l, platelets 282 × 10^11/l and leucocytes 18.4 × 10^9/l (differential: eosinophils 3.68 ×10^9/l, neutrophils 9.2×10^9/l, lymphocytes 1.5×10^10/l, and monocytes 4.02×10^9/l) (normal range: leucocytes 4–11×10^9/l; eosinophils 0.1–0.4×10^9/l). The IgE level was 10 328 IU/ml (normal range: <100 IU/ml). IgG, A, and M levels were normal. Urea, creatinine, albumin, and transaminase levels were within normal limits. Serology for HIV was negative. Magnetic resonance imaging (MRI) showed an oval mass in the right lacrimal gland and thickening of the right superior rectus muscle (Fig 2). After 3 weeks of prednisolone (50 mg/day), there was almost complete resolution of the lacrimal mass and IgE level and eosinophil count went down to 2860 IU/ml and 1.2 × 10^11/l respectively. Computed tomography scan of the abdomen revealed absence of intra-abdominal lymphadenopathy or organomegaly.

COMMENT
Neoplasia is characterised by clonal proliferation of cells and is most often demonstrated in cases of malignant diseases. However, monoclonality has also been demonstrated in some “benign” or “reactive” lymphadenopathy such as angioimmunoblastic lymphadenopathy and Castleman’s disease, both of which are associated with a tendency to aggressive lymphoma.

Kimura’s disease runs an indolent course and has been described as a chronic inflammatory process reactive to some “unknown” stimuli.1 Our patient had a typical clinical presentation with recurrent lacrimal swelling and lymphadenopathy in the head and neck region. It ran an extremely indolent course and, despite the recurring nature of the disease, our patient remained so asymptomatic that he was lost to follow up for years. Interleukin-5 has been shown to be constitutively expressed and explains some of the features of the disease such as eosinophilia and elevated IgE level.

TCR-δ gene has been shown by PCR amplification to be rearranged not only in clonal T cell disorders, but also in 73% of clonal B cell disorder.1 The PCR based methods for the IgH gene rearrangement is positive in 55%–100% of various types of clonal B cell disorders. In our patient, the absence of...
prolapse of the lower edge of the prosthesis and sagging of the lower lid. The procedure was done under local anaesthesia except in the two patients who, in addition, underwent secondary insertion of an orbital implant. A canthotomy and cantholysis were performed. An infraorbital conjunctival incision was carried out along the length of the lower lid. Dissection was then performed in the retro-orbicular plane till the orbital rim was reached (Fig 1A). The posterior edge of the conjunctival incision was fixed to the perios- teum about 5 mm posterior to the inferior orbital rim with interrupted 5-0 Vicryl su- tures. The posterior surface of the lower lid was left to heal by secondary intention (Fig 1B). An adequately sized conformer was inserted. A tarsal strip procedure was performed to tighten the lower lid horizontally.

A prosthesis was fitted at about the second post-operative month. The follow up period ranged from 5 months to 3 years. Nineteen patients had a satisfactory result with adequate reten- tion of the prosthesis, and good lower lid level. Inspection of the lower fornix revealed a deep recess with a well epithelialised inner lower lid surface, and no evidence of symblepharon (Fig 2). One patient had loosening of the tar- sal strip suture noted at the 1 week postopera- tive follow up and was later corrected. However, the final lid level remained unsatisfactory.

COMMENT

Adequate retention of the prosthesis in the anophthalmic socket requires a well formed inferior fornix, which in turn requires sufficient conjunctival length and a deep recess. Obliteration of the inferior fornix might occur despite having a good amount of conjunctival tissue. This occurs possibly because of dehiscence of lower lid retractors, or development of scar tissue in the inferior recess that ultimately results in prolapse of the fornical conjunctiva and anterior rotation of the lower edge of the prosthesis. The long term effect exerted by the weight and pressure of an improperly accommodated prosthesis will result in secondary laxity of the lower lid.

The traditional solution to the above condi- tion consisted of a lateral canthal tendon tightening and a fornix reformation using an externalised suturing technique in addition to alloplastic stenting material. Skin erosion and infection necessitated early removal of the externalised sutures and increased the risk of recurrence.

Another method of repair was described by Neuhaus and Hawes for the correction of the inadequate inferior cul de sac. It consisted of a transconjunctival inferior fornix incision used to gain direct exposure of the periosseum of the inferior orbital rim. Direct suture fixation of the edges of the conjunctival incision to the periosseum is then achieved. Externalised sutures and stents were not required. Out of 12 patients reported in the above paper, two developed mild lower lid retraction and two developed mild lower lid entropion. This is because the vertical length of the conjunctival tissue is not always sufficient to allow for fixa- tion of both edges of the incision down to the periosseum. Lower lid retraction or entropion occurs whenever the anterior edge of the incision is forced down and sutured under tension.

The technique described in this report makes the conjunctival incision just at the infratarsal border so as to save the maximum length of conjunctiva for the posterior flap. By this, the inner lid surface is left to heal by sec-
Lymphocytoma cutis with conjunctival lesions

EDITOR,—Lymphocytoma cutis is a benign lymphoid hyperplasia which typically occurs over the head and neck. We report a case of lymphocytoma cutis with conjunctival lesions; only one other case with lesions affecting the conjunctiva has previously been reported.

CASE REPORT
A 30 year old woman presented with a 10 year history of multiple erythematous papules over her nose, cheeks, and forehead. The papules were more numerous in the summer and the use of sun screens reduced the number of new lesions. Eight years earlier she had developed discrete pink conjunctival lesions. There was no previous history of trauma to the eyes. The lesions were asymptomatic and did not affect her vision. They were surgically excised for cosmetic reasons but reappeared within 2 months.

Examination revealed multiple 1–2 mm erythematous papules over her nose and cheeks. Three flesh coloured lesions were present on the right conjunctiva in the interpalpebral fissure, two medially and one laterally (Fig 1), and one on the left interpalpebral fissure. There was no lymphadenopathy or hepatosplenomegaly and a full blood count, biochemistry profile, and immunoglobulin profile were normal. *Borrelia burgdorferi* antibodies were not detected.

The histology of a papule from both the cutaneous and conjunctival lesions showed reactive lymphoid aggregates with germinal centres, tingible body macrophages, and follicles with good preservation of the normal architecture. Follicles with good preservation of the normal architecture, tingible body macrophages, and lack of B-cell positivity. In addition, analysis of the immunoglobulin heavy chain genes showed no evidence of a B-cell clone, thus helping to exclude the diagnosis of primary B-cell lymphoma.

A foreign body reaction within the eye may also result in similar lesions both clinically and histologically to those of lymphocytoma cutis. However, there was no preceding trauma to the eyes and the fact the lesions are multiple, affect both eyes, and recurred after surgical excision makes the diagnosis of lymphocytoma cutis of conjunctiva more likely than a foreign body reaction.

Cases of lymphocytoma cutis with conjunctival lesions are extremely rare. In our patient the conjunctival lesions have persisted for a period of 8 years.

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Accepted for publication 15 February 1999


Acute myelogenous leukaemia in an adult presenting with uveitis

EDITOR,—Ocular involvement has commonly been reported in patients with acute leukaemias. Although acute lymphoblastic leukaemia (ALL) may present as uveitis, this presentation has rarely been reported in patients with acute myeloid leukaemia (AML). We describe an adult male who initially presented with an anterior uveitis followed by the rapid development of orbital involvement who was subsequently diagnosed with AML.

CASE REPORT
A 43 year old man presented to the emergency room with a 5 day history of photophobia and redness of the right eye with a precipitous decrease in vision over the previous 24 hours. He had been seen 2 days earlier by another ophthalmologist and was found to have retinal vasculitis and anterior uveitis. He was started on oral corticosteroids and referred to an internist for systemic examination for the presumptive diagnosis of Behçet's disease. His medical history was remarkable for anal and mouth abscesses, 2 months before his visit.

On examination visual acuity was 6/60 right eye and 6/6 left eye. Ocular examination of the left eye was unremarkable. There was conjunctival injection, keratic precipitates, +2 anterior chamber cells, 360 degrees of iris synechiae, and an inflammatory membrane covering the anterior surface of the lens. The anterior chamber was deep and the intraocular pressure was within the normal range. Examination of the right eye revealed no eye-lid swelling or proptosis. Funduscopic examination of the right eye was not possible because of the papillary membrane. A diagnosis of uveitis was made, an examination begun including HLA B27 and HLA B51 and the patient was started on frequent topical corticosteroids.

Three days later the patient developed an acute onset of severe eyelid swelling, pain, and proptosis of the right eye (Fig 1). Visual acuity of the right eye was counting fingers and the intraocular pressure was elevated at 44 mm Hg. A complete blood cell count (CBC) and peripheral blood smear revealed predominance of blast cells, and a diagnosis of AML was made.

Figure 1 Acute onset of severe eyelid swelling and proptosis 3 days after the initial presentation with anterior uveitis.

Figure 2 Computed tomograph scan of the orbits demonstrating an infiltrating mass lesion surrounding the right globe.
made. B-scan ultrasonography of the right eye revealed vitreous opacities, a tractional retinal detachment temporally, thickened ocular walls, and a mass lesion in the posterior orbit. An emergent computed tomograph scan confirmed the presence of an infiltrating orbital mass (Fig 2) and an urgent canthotomy, cantholysis, and orbital biopsy were performed. The biopsy demonstrated evidence of focal aggregates of mononuclear cells with cleaved nuclei consistent with leukaemic infiltrate. With a presumptive diagnosis of orbital leukaemic infiltrate, the patient underwent orbital irradiation in conjunction with systemic broad spectrum antibiotics. He responded rapidly with a decrease of lid swelling, proptosis, and the intraocular pressure within 24 hours. Immunohistochemical staining of the orbital biopsy was not able to demonstrate conclusively the presence of leukaemic cells.

The patient subsequently underwent an unsuccessful bone marrow transplant, and died 3 months after the initial presentation. Postmortem examination of the orbital biopsy was not performed.

COMMENT

Although uveitis is commonly reported in children with relapsing acute leukemias, it rarely is the first presentation of AML.1–4 Leukemic retinopathy, including haemorrhages, cotton wool spots, and retinovascular abnormalities are the most common ocular manifestations in patients with AML.1–3 Anterior segment and vitreous findings are rarely described in these patients. In a prospective study of 56 patients with AML, 53% of the patients had ocular manifestations at the time of diagnosis, but none had anterior segment or vitreous involvement.

In our patient, the initial presentation with anterior iridocyclitis did not raise suspicion of malignancy. However, the recent medical history of anal and mouth abscesses in a previously healthy young man was suggestive of an immunocompromised host. The worsening of anterior chamber inflammation despite aggressive topical application of steroid was followed in several days by signs of rapid orbital involvement. Posterior segment involvement was not seen at the time of presentation because of a dense pupillary membrane, but was later documented on B-scan echography. The diagnosis of retinal vasculitis by the ophthalmologist most likely represented leukaemic retinopathy secondary to perivascular infiltration by the leukaemic cells. The orbital involvement in this patient may have been due to leukaemic infiltration, orbital haemorrhage, or orbital cellulitis. Although the diagnosis of leukaemic infiltrate was not immunohistochemically confirmed, the rapid response to irradiation, and the pattern of intraocular as well as retrobulbar involvement pointed towards this diagnosis.

The delay in the diagnosis of acute myeloid leukaemia in our patient was minimised by the rapid progression of the disease, quickly leading to further investigations. However, the question arises whether an initial CBC should be performed on all patients with anterior iridocyclitis. In our institution, of 534 adult patients treated for uveitis over the past 3 years, five cases were secondary to intraocular tumours, and only the present case was associated with an acute leukaemia. This low incidence argues against the use of a CBC for screening of previously healthy adults with typical anterior uveitis. However, in cases of worsening inflammation despite frequent topical steroids a CBC with smear may be recommended.

Presented at the annual meeting of the Canadian Ophthalmological Society on 28 June 1998 in Calgary, Alberta.

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Accepted for publication 19 February 1999


Figure 1 Fundus photographs demonstrating central disc oedema with prominent surrounding subretinal haemorrhages.

Figure 2 Fundus photographs demonstrating minimal disc oedema with prominent surrounding subretinal haemorrhages.

Over the next 2 years, the patient lost a total of 54 lb (24.5 kg), and took no new medications. On follow up examination, she reported normal vision and no further headaches. Her visual function was stable, and fundus examination showed near complete resolution of the subretinal haemorrhages (Fig 2).

COMMENT

The differential diagnosis of subretinal haemorrhage is extensive. Among the more frequently cited aetiologies are trauma, choroidal tumours, aneurysmal subarachnoid haemorrhage, and retinal vascular disease such as diabetic or hypertensive retinopathy. Infrequently, subretinal haemorrhages have been reported in association with IIH.1–3 All of these reports noted the additional features of either small anomalous discs or peripapillary subretinal neovascular membranes, the latter usually associated with chronic papilloedema. In our patient, there was no evidence of neovascular membranes, and the papilloedema itself was not prominent.

Figure 3 The ophthalmoscopic picture at presentation. The right eye shows central disc oedema with prominent surrounding subretinal haemorrhages.
Ocular haemorrhages are common in cases of aneurysmal subarachnoid haemorrhage occurring in 17% of cases. The haemorrhages may be subretinal, retinal, preretinal, or intra-vitreal. When subretinal, the haemorrhages are frequently peripapillary. It is now well accepted that the ocular haemorrhages seen in patients with aneurysmal subarachnoid haemorrhage are caused by acute elevations in the intracranial pressure with subsequent retinal venous hypertension. Acute increases in intracranial pressure induce a venous stasis retinopathy, which may result in intraocular bleeding.

Given that the mechanism of disc oedema in IIH is disc oedema and subretinal fluid, raising intraocular pressure, it would follow that retinal haemorrhages should be common in this disorder. Large vitreous bleeds, however, are very rare in IIH, as are subretinal haemorrhages, probably because of the chronicity and lack of sudden pressure elevation in IIH. Pre-existing communicating vessels between the retinal and choroidal circulations probably dilate in response to long standing papilloedema, creating opticociliary shunt vessels of varying sizes. Perhaps, these shunts unload the increased venous pressure on the retinal circulation, reducing the incidence of large intraocular haemorrhages from venous stasis retinopathy. An acute elevation in intracranial pressure in a patient with IIH may occur with coughing or other variants of the Valsalva manoeuvre. Such a precipitous rise in pressure could produce ocular haemorrhages of the type seen in our patient.

We believe our patient's elevated intracranial pressure probably caused prominent peripapillary subretinal haemorrhages with only mild disc oedema. This resultant venous loss probably resulted in normalisation of her intracranial pressure, as it paralleled the resolution of her disc oedema as well as her headaches and visual complaints. Near complete resolution of the peripapillary haemorrhages accompanied the improvement in her symptoms. This case serves as yet another confirmation of the proposed mechanism of peripapillary subretinal haemorrhage as occurring secondary to raised intracranial pressure.

This work was supported in part by a departmental grant (ophthalmology) from Research to Prevent Blindness, Inc (NY) and ophthalmology department, National Institutes of health CORE grant no P30-EY06360.

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Accepted for publication 22 February 1999


Accidental instillation of N-butyl cyanoacrylate into the anterior chamber

Editor.—Cyanoacrylate adhesive, a relatively inert material, may be very useful in sealing small corneal perforations. We report a case where accidental injection of N-butyl cyanoacrylate (tissue adhesive) through the corneal perforation into the anterior chamber resulted in complications and required surgical removal.

CASE REPORT

A 64 year old man with a history of left sided Bell’s palsy of 6 months duration had difficulty with left eyelid closure, requiring a suture tarsorrhaphy and placement of a gold weight in the left upper lid. He went on to develop a descemetocele of the left cornea which eventually perforated. N-butyl cyanoacrylate was applied using a cannula to the corneal perforation site and a bandage contact lens was placed. After noting that the adhesive had entered into the anterior chamber, he was referred.

On initial examination, best corrected visual acuity was right eye 20/25 and left eye hand movements. On slit lamp examination, the left cornea showed a central perforation with overlying cyanoacrylate adhesive which had extended down into the anterior chamber. The central iris was covered with adhesive (Fig 1), creating pupillary block. The patient was given preoperative intravenous mannitol and a penetrating keratoplasty was performed.

At the time of surgery, the cyanoacrylate adhesive was firmly adherent to both the corneal endothelium and iris. After trephination, the adhesive was gently stripped off the iris (blunt dissection) using forceps. The lens had spontaneously expelled from the eye along with vitreous. After removing cortical remnants and performing an open sky anterior vitrectomy, a donor cornea was sutured in place. Eight months after surgery, visual acuity is 20/80 and the graft remains clear.

COMMENT

Tissue adhesives are relatively inert polymers which were first used in 1969 to seal a cornel perforation, thus eliminating the need for ocular surgery. In addition, tissue adhesives have been used in the ophthalmic setting for tarsorrhaphy, punctal occlusion, ptosis, retinal holes, and scleral thinning. With corneal perforations, the adhesive creates an inflammatory reaction and host fibrous tissue grows behind the adhesive filling in the gap. The adhesive should only be applied to perforations that are less than 1.5 mm in diameter and should not be used if there is prolapse of intraocular contents. For flat anterior chambers, air or viscoelastic should be removed first.

In animal experiments, small amounts of tissue adhesive injected into the anterior chamber created conjunctival vascular engorgement, mild self limited keratitis/uveitis, and localised corneal scarring; however, there was minimal ocular toxicity after 1 year. If injected in larger amounts, intense inflammation, corneal neovascularisation and necrosis, were seen. Other reported problems with the use of tissue adhesives include sympathetic giant papillary conjunctivitis, and retinal toxicity. In our case, the tissue adhesive created pupillary block. Because of the corneal perforation, intraocular pressure readings were unobtainable. After surgical intervention (penetrating keratoplasty, dissection of adhesive off the iris, self expulsion of lens, open sky vitrectomy), the patient remains comfortable with a clear corneal graft and a good chance of achieving excellent visual acuity. While accidental injection of tissue adhesive into the anterior chamber may be tolerated well with minimum complications, larger amounts should be removed first.

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Accepted for publication 8 March 1999

Central serous papillopathy

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Br J Ophthalmol 1999 83: 878
doi: 10.1136/bjo.83.7.878

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