

eosinophils. Erythrocyte sedimentation rate was 3 mm in the first hour, and immunoglobulins, antinuclear antibodies, and complement titres were normal. Liver enzyme activities were also normal. Microscopic examination of the enlarged lymph nodes unspecified adenitis. A chest x-ray film was normal. Captopril was immediately withdrawn, and within two weeks the lymph nodes were not palpable and the eosinophil count was normal.

Case 2—A 47-year-old man had had primary hypertension for five years. He had no known liver disease, and liver enzyme activities were normal before he received captopril. His blood pressure became normal with 150 mg of captopril daily and for three months all laboratory tests were normal. He was subsequently admitted with painful palpable lymph nodes in both groins, the left axilla, and the back of the right knee. His temperature was 38.3°C. The leucocyte count was $6 \times 10^9/l$, with 5% eosinophils. Erythrocyte sedimentation rate was 6 mm in the first hour. Serum aspartate and alanine transferase activities were slightly raised (0.90 $\mu\text{kat/l}$, normal < 0.75). Captopril was immediately withdrawn. After one week the lymph nodes were not palpable and all laboratory tests were normal.

Comment

The lack of any previous disease of the lymphatic system in these two patients and the rapid recovery within a few days of withdrawal of the drug suggest a drug-related lymphadenopathy. Though the true nature of this lymphadenopathy is not clear, the occurrence of enlarged lymph nodes associated with administration of captopril merits attention.

¹ Atkinson AB, Robertson JIS. Captopril in the treatment of clinical hypertension and cardiac failure. *Lancet* 1979;ii:836-9.

² Case DB, Atlas SA, Mouradian JA, Fishman RA, Sherman RL, Laragh JH. Proteinuria during long-term captopril therapy. *JAMA* 1980;244:346-9.

³ van Brummelen P, Willemze R, Tan WD, Thompson J. Captopril-associated agranulocytosis. *Lancet* 1980;i:150.

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Long-term morbidity of herpes zoster ophthalmicus

Ocular complications occur in half the patients with herpes zoster ophthalmicus,¹ and, though the prognosis has improved considerably with the use of corticosteroids, antibiotics, and artificial tear preparations,^{2,3} the disorder remains potentially serious, sometimes resulting in blindness. This study reports the long-term morbidity of herpes zoster ophthalmicus in 13 patients still requiring treatment 12 months to 23 years after the onset of the disease.

Long-term complications of herpes zoster ophthalmicus

Case No	Age at onset of disease	Sex	Duration of complications	Visual acuity Snellen's		Complications	Surgical procedures
				At onset	Most recent		
1	53	M	12 months	6/5	6/18	Glaucoma, uveitis	4 eyelid operations including skin graft
2	71	M	12 months	6/12	6/18	Cicatricial ectropion of upper eyelid	
3	76	M	13 months	6/60	6/18	Corneal anaesthesia and scarring	2 tarsorrhaphies
4	62	F	19 months	6/9	6/24	Corneal anaesthesia, recurrent keratitis, glaucoma, uveitis	
5	64	F	21 months	6/60	6/36	As case 4	3 corneal grafts, cataract extraction, glaucoma surgery, tarsorrhaphy
6	84	F	22 months	6/12	CF	Corneal anaesthesia	
7	74	F	24 months	6/60	1/60	As case 4	3 corneal grafts, cataract extraction, glaucoma surgery, tarsorrhaphy
8	40	F	30 months	6/12	PL	As case 4 plus cataract, dry eye, and recurrent perforation of cornea	
9	60	F	36 months	6/5	HM	Glaucoma, cataract, uveitis	3 tarsorrhaphies
10	67	F	36 months	6/24	PL	Corneal anaesthesia, recurrent keratitis	
11	88	M	37 months	CF	CF	Corneal anaesthesia, abscess, perforation	Tarsorrhaphy, eye excised
12	68	M	9 years	6/9	CF	Corneal anaesthesia, recurrent keratitis	
13	44	F	23 years	6/6	6/36	Glaucoma, cataract, uveitis	Tarsorrhaphy

CF = Count fingers. PL = Perception of light. HM = Hand movements.

Patients, methods, and results

Patients were included in the study if they were attending an ophthalmology clinic for the treatment of complications one year or more after an attack of herpes zoster ophthalmicus. All but one were known to have received the standard recommended form of treatment for herpes zoster ophthalmicus⁴ early in the disease: an intensive course of topical antibiotics and corticosteroids was given during admission to hospital for about one week and antiglaucoma treatment and artificial tear preparations were provided if required. Low-dose topical steroids were subsequently continued for several months on an outpatient basis. Information about the initial treatment in case 13 was not available.

Assessment of each patient included measurement of visual acuity, intraocular pressure, and tear production, as well as ophthalmoscopy and examination with a slit-lamp biomicroscope.

A progressive reduction in visual acuity was found in 11 of the 13 patients (table); in five patients vision was reduced to finger counting, hand movements, or perception of light, and one patient (case 11) had his eye excised. The major complication, found in nine patients, was loss of corneal sensation associated with recurrent keratitis and scarring of the cornea. The eyelids of five of these patients (cases 6, 8, 10, 11, and 12) required suturing (tarsorrhaphy) to protect their anaesthetic corneas. Despite tarsorrhaphy the neuroparalytic keratitis in two of these patients resulted in spontaneous perforation of the eye. One of these, a 40-year-old woman (case 8) with systemic lupus erythematosus requiring treatment with systemic steroids, developed perforation of the cornea 20 months after the attack of herpes zoster ophthalmicus. By the time of this survey she had received three corneal grafts and undergone a cataract extraction and an operation for glaucoma. The second patient, an 88-year-old man (case 11), developed a corneal abscess and spontaneous perforation that necessitated excision of the eye 22 months after the onset of herpes zoster ophthalmicus. Chronic glaucoma and recurrent uveitis were found in seven patients; in one of them (case 13) these complications were still requiring treatment 23 years after the onset of herpes zoster ophthalmicus. In three of these patients (cases 8, 9, 13) associated cataracts resulted in severe visual impairment. Scarring of the eyelids and eyelash abnormalities (trichiasis) were not major complications except in one patient (case 2), who required four plastic surgery procedures for cicatricial ectropion of the upper lid. Three patients (cases 4, 5, 8) complained of persistent postherpetic neuralgia.

Comment

Spontaneous perforation of an anaesthetic cornea has been described as a frequent complication of herpes zoster ophthalmicus, often requiring excision of the eye.¹ Since the introduction of modern therapeutic methods perforation of the eye has become a rare complication: in a series of over 500 patients presenting with herpes zoster ophthalmicus only one subsequently sustained perforation of an eye and this responded satisfactorily to medical treatment.³ In the present study perforation of the eye occurred in two patients, one of them elderly and the other immunologically compromised. Both patients required extensive surgical intervention, the older patient having the eye excised. The late occurrence of corneal perforation, nearly two years after the onset of herpes zoster ophthalmicus, suggests that patients in these categories should be carefully followed up for a long time. Glaucoma and recurrent uveitis may similarly require treatment for an extended period after the initial episode of herpes zoster ophthalmicus.

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- ² Scheie GH, Alper MC. Treatment of herpes zoster ophthalmicus with cortisone or corticotropin. *Arch Ophthalmol* 1955;**53**:38-44.
- ³ Marsh RJ. Herpes zoster keratitis. *Trans Ophthalmol Soc UK* 1973;**93**:181-92.
- ⁴ Marsh RJ. Ophthalmic herpes zoster. *Br J Hosp Med* 1976;**15**:609-18.

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Significance of early postoperative fever in children

Fever is one of the earliest recorded signs of illness and has been a traditional observation in nursing care for centuries. A small rise in body temperature after operation is a well-recognised phenomenon, particularly in children, but its frequency and implication for care have never been assessed.

Patients, methods, and results

We studied 150 consecutive children (16 girls, 134 boys) undergoing operation for inguinal hernia. Three boys were also circumcised and two children underwent bilateral herniotomy. Age range was 4 months to 11 years (mean age 3.7 years). The procedure was planned on a day-case basis in all but 32 cases, and operations were performed by several different surgeons. All children were admitted on the morning of operation and recovered during the afternoon. During this period routine postoperative nursing observations were made, including at least two temperature recordings. The children were later seen by a doctor and allowed home at around 6 pm if their condition was found to be satisfactory; if it was not they remained in hospital. Children were visited several times at home by the district nurse and reviewed in hospital at one month by the medical staff.

Body temperature above 37°C was often recorded, and the table shows a relation between temperature reached and age. The incidence of fever over 37.5°C fell from 74% in those aged under 1 year to 28% in those over 4 years.

Proportion of children with fever after operation

	Fever (°C)		
	37-	37.5-	≥38
No (%) of children with fever within 24 hours	83 (55)	71 (47)	33 (22)
No (%) of children with fever at 6 pm	66 (44)	56 (37)	32 (21)
Average age (years)	3.1	2.9	1.9

Of 70 children with a temperature of over 37.5°C, 52 were essentially well, six vomited transiently, and 12 developed complications possibly associated with fever (haematoma or infections). Two children without fever developed similar complications. All of the complications were apparent clinically, sometimes after discharge.

Of the 118 children for whom day-case treatment had been planned, 48 were detained overnight. In 28 cases this was solely because fever had been recorded; a similar number, however, were discharged despite fever. None of these was unwell. Nine of those detained stayed two or more days on account of unexplained fever. Pain, vomiting, or social reasons accounted for the remaining 20 who stayed overnight.

Comment

Temperatures over 37°C are conventionally considered to be abnormal. If only temperatures over 37.5°C are considered, however, 70 (47%) of the 150 children studied were febrile within the first 24 hours. Interestingly, 12 of the 14 children who subsequently developed complications were from this febrile group. Complications were always apparent on clinical grounds, and decisions about management and discharge from hospital were never beneficially influenced by knowledge of the child's temperature. There therefore seems little useful predictive value in knowledge of fever in such cases.

The mechanism of the early postoperative rise in body temperature is not clear. A simple infective basis does not explain the relation above. There was no relation to postoperative chest infection. Excessive administration of atropine may result in fever,¹ but there was no relation here to atropine dosage or other premedication. Hyperpyrexia occurring during anaesthesia is probably a completely different phenomenon,² and no relation was noted here to the type of anaesthetic agent used. We suggest that the phenomenon may be a central response to the stress of surgery, entailing a transient adjustment of "set point" for temperature homeostasis as occurs under other circumstances such as exercise.³ This would explain its lack of serious implication. Furthermore, the strong inverse relation to age suggests that it is a relatively primitive response. Whether the mechanism is reabsorption of blood (analogous to fracture fever) or other consequences of trauma inflicted remains speculative.

These observations have important implications for the management of operations done on a day-case basis. Even when only the temperature recorded at 6 pm (the usual time of discharge) was considered, one-third of the patients were febrile (>37.5°C). We suggest that temperature is of poor predictive value and may lead to unnecessary admission to hospital. It seems wiser in this type of operation to avoid measuring children's temperatures.

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³ Cooper KE. Regulation of body temperature *Br J Hosp Med* 1969;**2**:1064-7.

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Facial burns due to fan heater

Facial heat injuries in toddlers are usually due to scalds. We describe a facial burn due to a fan heater, widely considered to be incapable of causing such injury.



Facial appearance of child 12 hours after injury.

Case report

A 10-month-old West Indian girl who had been crawling for one month was left unattended on the floor with a 3-kW electric fan heater switched to maximum. She was discovered minutes later to have fallen over the front