The bad effects include a nightmare for the hospital administration. Administrators like to remain in control; with a staff of several hundred doctors some of whom attend the hospital only infrequently, this is difficult. Standards are hard to monitor and, where there are several hospitals in town, a doctor, at cross purposes with one administration, may shift his practice to another. There exists the possibility of multiple mutual back-scratching relationships within the institution. Occasional conflicts arise about who is doing what to whom and when. In such an open hospital continuous medical audit of performance becomes an absolute necessity and this is very time-consuming if it is to be done properly.

The overall result of the open hospital system is that there is every incentive for the standards of medical care to improve. Family doctors working in such hospitals take their knowledge with them into the community. They cannot refer away their mistakes. They follow them into hospital. The specialist, and particularly the consultant, faces tough competition and, if his work falls off, so does his income.

Strength of Canadian medicine

Between the small rural hospitals, on the one hand, and the closed university hospitals, on the other, the large community

hospitals remain the strength of Canadian medicine. It is here, however, that the balance is unstable. Governments at all levels are looking for every way to reduce costs. Hospital construction is slowing and in some provinces they are already closing some down. The pressure for beds and work increases, particularly in the cities where doctors and their wives like to make their homes. In the name of redistribution of medical resources the perennial "I'm all right Jacks" try to limit the competition in an effort to obtain security. They now find an ally in the politicians. In British Columbia this year the College of Physicians and Surgeons has passed a regulation that immigrant doctors must practise in Northern British Columbia, and the Minister of Health applauded the decision. The Department of Human Rights are up in arms and I hope their point of view prevails. You either have a free system of open hospitals or you don't. Regulations to limit competition must remain minimal, otherwise the whole argument for fee-for-service payment for hospital specialists goes out the window and with it their independence and the open hospital.

In a wide open democracy like Canada with an uncontrollable press such a challenge to medical democracy will only give strength to those who wish to bring about their own particular brand of cultural revolution, and we have enough of them already.

Problems of Childhood

Squint

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Squint and strabismus are synonymous terms used to describe conditions in which there is a tendency for the two eyes not to be simultaneously directed towards the object of regard. They result from some derangement of the binocular fixation reflexes which normally enable the eyes to be used together without strain, allowing stereoscopic vision. When the stimulus to maintain binocular single vision overrides the tendency for the eyes to become dissociated the strabismus is said to be latent, and this gives rise to eyestrain. When the eyes cease to fixate together the squint has become manifest. Squints usually arise in early childhood when the binocular reflexes are being acquired. If appreciable latent deviations are included as well as manifest deviations then squint has been reported as affecting 6-8% of children examined at the age of 6. Strabismus arising de novo in adult life is much rarer and then quite often indicates serious systemic disease.

Paralytic squint

Disorder of the motor side of the fixation reflexes affects the action of the extrinsic ocular muscles and leads to squint

on account of some limitation in the range of ocular movements. Such a squint is termed paralytic or incomitant and is most important as a sign of neurological disorder. Its distinguishing feature is a variation in the angle of squint in different directions of gaze. For instance, a left lateral rectus palsy due to sixth cranial nerve weakness produces a convergent squint which is maximum on looking towards the left and may be entirely absent on right lateral gaze.

Concomitant squint

Much commoner is concomitant squint in which there is no limitation in the movements of the eyes so that the squint is equally present in all directions of gaze, although its angle may vary between near and distance fixation. This type of squint is caused by derangement of the sensory side of the binocular fixation reflex or of the central co-ordinating mechanism. When an eye is blind or at least has very poor central vision there is no stimulus for fusion of the two retinal images so that the eyes drift into an uncoordinated rest position. In adults that is a position of divergence, but owing to strong accommodation in childhood such a defective eye usually exhibits a convergent squint. Sometimes the cause of the visual defect may be obvious from external ocular examination—for instance, dense corneal scarring. But in other patients the affected eye may appear normal and the presence of a squint may then be the first indication of very serious intraocular disease. For example, squint is the presenting sign in at least a quarter of all cases of retinoblastoma.

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Much more concomitant squint results from derangement of the central co-ordinating mechanisms of the binocular fixation reflexes. In some cases this is due to generally defective cerebral function, and concomitant as well as paralytic squints are much more frequent in mentally retarded and brain-damaged children than in the normal population. Most commonly, however, concomitant squint is due to the presence of a refractive error, usually hypermetropia. When the eyes are focussed on a near object the accommodation used is associated with an equivalent amount of convergence, so that the image of the object of regard continues to fall on the fovea of each eye, and binocular single vision is maintained. If a child is hypermetropic, with eyes slightly shorter than normal, too much accommodation is required to accomplish clear near vision, and there is, therefore, an excessive tendency to converge. Many children with such refractive errors seem able to dissociate their accommodative and convergence faculties but others begin to exhibit a tendency to convergent squint at first intermittently and only when accommodating, and when tired or ill, but later in a constant fashion. This is the commonest type of childhood squint; divergent squint is rarer and may be associated with myopia, but is more commonly the result of a primary overaction of the lateral rectus muscles.

Secondary effects of squint

When a squint is of the paralytic type, adopting an abnormal posture of the head may allow binocular vision to be maintained in certain directions of gaze. If not, then adults with acquired paralytic squints cannot suppress the false image except by closing one eye, and they find the double vision very distressing. Young children with all types of squint, however, quickly develop an ability to ignore the false image. This suppressive mechanism is at first voluntary, but soon it becomes constantly established and the central visual acuity (although not the peripheral field of vision) of the squinting eye becomes impaired even when the other eye is covered, a process known technically as amblyopia and popularly as a "lazy eye." Amblyopia is the most serious result of neglected squint in childhood and in such cases the vision of the affected eye in adult life may be less than 6/60 so that if the other eye is later lost or damaged by some unassociated disorder the patient becomes severely and unnecessarily visually handicapped, for in nearly all cases longstanding amblyopia is an entirely untreatable condition in adult life.

Diagnostic tests

The diagnosis of squint is confirmed on clinical examination principally by the cover test. When a child with a manifest left convergent squint is looking at a fixation target such as a torchlight or a toy, and his right eye is covered by a piece of card or the examiner's hand, then the left eye moves outward to take up fixation. In contrast, the normally fixing right eye does not move when the squinting left eye is covered. A latent squint may also become manifest on repeated cover testing and thus be identified. As accommodative squint may only be present on near fixation, the interesting object of regard should be held no more than 30 cm from the eyes while the test is being carried out. If a squint always affects the same eye, the fixation of that eye is usually unsteady compared with the other, and the child may resent covering of the good eye; these observations are useful objective indications of the presence of amblyopia. At the same time the range of ocular movements can be studied by moving the fixation target, and this allows differentiation between concomitant and paralytic squints.

When children are too young or uncooperative to do a cover test, an examination of the reflections which a fixation light makes on the cornea of each eye may help. When an eye fixes the light the corneal reflection is central, but the reflection in

a squinting eye is deviated eccentrically, temporally with convergent squint and vice-versa. This is a particularly helpful test for examining young babies who may be affected by considerable apparent squint. In such cases the presence of wide epicanthic folds on the side of the bridge of the nose produces an optical illusion of convergent squint, especially on lateral gaze, or when the eyes are half-closed (such as when the child is tired or irritable) because the sclera nasal to the cornea is hidden. Whenever there is a history of squint in infancy which was said to have disappeared spontaneously with the passage of time it may generally be assumed that the "squint" was apparent only, for real squints persist.

If there is even a suspicion that any squint seen is real and not illusory all children, however young, should be referred without delay for expert ophthalmic examination and opinion, bearing in mind particularly the possibility that the squint may sometimes indicate serious ocular or neurological disorder. In the ophthalmic clinic it is most important to supplement the examination described above by refraction under cycloplegia (that is, with accommodation temporarily paralysed), using either atropine 1% eye drops instilled for some days before the examination or, in older children, a shorter-acting agent such as cyclopentolate 1% instilled in the clinic. Accurate retinoscopy to assess the refractive error can then be done without the child over-accommodating on the light source. As the pupils are dilated a thorough examination of the intra-ocular appearances may be carried out at the same time to investigate the possibility that the squint is the result of ophthalmic or neurological disease.

Treatment

SPECTACLES AND OCCLUSION

Spectacles are prescribed to correct any appreciable refractive error, particularly hypermetropia in the presence of an accommodative squint. In such cases the convex lenses will allow the affected child to see near objects clearly without having to exert excessive accommodation, and thus excessive convergence. As a result the early prescription of a full optical correction to be worn constantly will often completely control such a squint so that no other treatment is required. Children will usually, with encouragement and persuasion, tolerate spectacles from about 18 months and pronounced accommodative squints are in any case unusual in children below that age. In other cases wearing glasses only decreases the angle of squint, and when the squint constantly affects the same eye this quickly leads to the development of amblyopia requiring urgent treatment. This is done by occlusion of the sound eye, either totally using adhesive patches to the skin of the face or partially by occlusion of the spectacle lens. In children under 6 a rapid recovery in the acuity of vision of the amblyopic eye usually follows this treatment. When vision cannot be measured subjectively and accurately in the very young this alleviation of amblyopia can be inferred when the squint begins to alternate freely, with each eye fixing at times.

Occlusion treatment for amblyopia ceases to be successful at all after the age of 10, and the results are increasingly uncertain from the age of 6. For this reason urgent attention to this aspect of the squint is of paramount importance. Once the vision has been restored to normal, or at least an optimal correction of vision has been achieved in the amblyopic eye, continued close supervision is still required at least to the age of 10, for in the intervening period the amblyopia may return and require additional courses of occlusion. Whatever standard of vision has been achieved by the age of 10 will be maintained permanently.

SURGERY

Treatment aims to develop completely normal binocular vision, but this cannot always be achieved. If the binocular reflexes

are disrupted very early in life some permanent derangement in their function often has to be accepted, but to minimise this it is necessary to consider squint surgery at an early age in those cases in which there is evidence of potential binocular vision but the wearing of spectacles alone does not completely abolish the squint. If the visual axes can be surgically adjusted parallel to each other in such cases then the natural stimulus of binocular fusion may develop and be maintained so that the squint is cured. More than one operation is often required to achieve an optimum result and the parents should be warned of this at an early stage in treatment.

Squint surgery is not particularly uncomfortable or unsettling even for very young children, and rarely requires over three days in hospital. It may also be carried out for purely cosmetic reasons in cases in which there is no hope of achieving normal binocular vision, but this is usually postponed until a rather later age. Such squints are a very common problem in children with multiple handicaps, and simple cosmetic squint surgery can ease this obvious aspect of their handicap very satisfactorily. Even after successful surgery in early childhood continued supervision up to the age of 10 is still required, as the squint may sometimes recur with breakdown of binocular vision at any time—owing often to the increased amount of close fixation associated with school work and learning to read.

PARALYTIC SQUINTS

The treatment of acquired paralytic squints follows somewhat

different lines. Of primary importance is an elucidation of the cause, but symptomatically the first consideration is the relief of diplopia by occlusion of one eye. Many such squints recover over a period of weeks or months, and at least six months should be allowed to elapse before any definitive treatment is carried out. In many cases the small degree of ocular imbalance which then remains can be controlled by incorporating prisms into the spectacle correction. In others, surgery is required; this is often complex, requiring skilled judgment and more than one operation as the residual squint may have both a horizontal and a vertical element.

Conclusions

This short account does not allow for any consideration of other methods of treatment, such as prisms for young children, orthoptic exercises, bifocal spectacles, and meiotics to decrease accommodative excess. It does emphasise, however, that squint is a common problem in childhood, and one which requires early exact diagnosis and expert long-term management. The most important factor to be remembered is that squint is sometimes an indicator of serious disease and that a neglected squint may lead to considerable permanent disability from the development of untreatable amblyopia. Early investigation and treatment is therefore most important. Even when a complete cure is not achieved, provided that there is no amblyopia and the cosmetic appearance is satisfactory, the patient will not carry into adult life any really serious disability.

Medicine in the 'Seventies

The North Sea

FROM A SPECIAL CORRESPONDENT

If a workman on a North Sea oil rig gets a foreign body in his cornea and there is no one on board with the skill to remove it, he will need to be taken ashore on the supply ship, treated, and returned to the rig—at a minimum cost of £250 in transport costs and loss of earnings. Inevitably, eye and hand lesions and other relatively minor injuries are frequent problems on the offshore oil and gas operations, so not surprisingly the companies concerned have been anxious to arrange for medical cover on the spot: and one effective solution to the problem has been provided by a group of doctors in Great Yarmouth, Norfolk.

Yarmouth is no longer dominated by the herring industry, which faded as overfishing led to lower and lower catches. Instead, it is making a bid to be the oil exploration capital of Europe. All the publicity about Scottish oil should not overshadow the importance of the North Sea gas fields, which provided the first commercial successes for offshore exploration. About 35 gas rigs are serviced from Yarmouth, and many multinational oil companies, construction firms, and diving contractors have shore establishments there. Some at least seem to find it convenient to use Yarmouth as a base for further exploration of the Celtic Sea, offshore Spain, and the English Channel.

The NHS does not take any responsibility for medical care outside Britain, and for practical purposes that means that its duty of care ends at the low-water mark. The care of the crews

of the rigs, the pipelaying barges, and the support ships has to be organised by the companies concerned. The smaller gas rigs may have as few as 12 crew, but most of them, and most of the barges and ships, have a complement of 60 or more. Clearly the primary medical care of these relatively small units cannot be provided by doctors at sea, so a system of medical auxiliaries (medics) has been developed to provide immediate cover.

Oilfield medical services

The Yarmouth service is operated by a group of eight general practitioners practising from their own health centre at Gorleston on Sea. They have set up a company—Oilfield Medical Services—which undertakes to provide medics to supply the day to day care of the crews of offshore installations and barges; this service is backed by 24-hour cover by the shore-based doctors. The innovation of the Yarmouth scheme is that its medics are selected, trained, and employed by the doctors, so that there is no question of divided responsibilities: the medic is responsible to the doctor, not to the construction company.

There is no shortage of applicants for places on the medic-training programme. Salaries paid vary, depending on the proportion of each month spent at sea, but they are well above those offered by the NHS to state-registered nurses and there