A NEW ROLE FOR ORTHOPTISTS IN CEREBRO - VASCULAR ACCIDENT ASSESSMENT

Ann Macfarlane
Ted Longhurst
Eye Clinic Lidcombe Hospital
Joseph Street, Lidcombe. N.S.W.

SUMMARY

An orthoptic visual assessment programme, established as a preliminary to rehabilitation therapy for cerebro-vascular accident patients, is described, with case histories illustrating the advantages of the programme.

This paper describes the extended role of orthoptists at Lidcombe Hospital. This is a general hospital in the Western Suburbs of Sydney, having a strong emphasis on gerontology and rehabilitation.

From the time we began work as orthoptists in the eye clinic, we found we were being asked many general questions pertaining to vision such as "is 6/18 good vision?" and "what does N5 mean?", "should the patient wear glasses for therapy?" by occupational therapists, physiotherapists, speech therapists and therapy students. After discussing the therapists' concern about the visual problems of their patients, especially cerebro-vascular accident (C.V.A.) patients, we were encouraged by our ophthalmologists and supported by the medical superintendent, physicians and neurologists to initiate a visual screening assessment for these patients prior to their commencement of rehabilitation therapy.

Previously, when these patients were referred to the Eye Clinic it was with a note stating "this patient complains of being unable to read – for glasses check please." Most C.V.A. patients seem to complain of a deterioration in vision and being unable to read. They generally attribute this to the need for a change of glasses, but a C.V.A. does not alter refraction. More often than not their problem is caused by one of the other conditions such as nystagmus, loss of fixation, poor convergence, diplopia, field loss, overlapping images, etc. It is usually better to delay refraction until drugs are stabilized and the patient feels well enough to co-operate in subjectively assisting refraction.

After determining which tests gave therapists the visual information directly related to therapy tasks, we gave a further lecture to explain the testing and its significance.

At present we are screening each newly admitted C.V.A. patient. We have also been included in ward rounds and weekly conferences.

Screening begins with a detailed history:

1. history of C.V.A. – date and nature
2. past medical history (diabetes, hypertension, medication)
3. ocular history (age of glasses, previous ocular treatment)
4. symptoms (including questions about reading ability)

In the screening routine examination:

1. external observation (lids, conjunctiva, cornea etc.) is made
2. glasses are neutralized,
3. vision is tested for near and distance (and with pinhole if indicated)
4. reading technique is checked, noting words missed or misread and skipping of lines,
5. visual fields are plotted,
6. pupil responses are tested,
7. cover tests are done for near and distance,
8. ocular motility is tested for
   i) presence of muscle palsy
   ii) siting of lesion – a) pursuit b) saccadic c) position maintenance d) vergence – to test all eye movement systems.
9. Nystagmus is evaluated
10. Wirt Titmus Test for stereo acuity is given.
11. tensions are tested, as glaucoma is prevalent in the age group.
12. colour testing

A report is placed in the patient's history file to be seen by the patient's physician who may then refer to the ophthalmologist if there is the slightest evidence of an ocular defect. We make a point of seeing the therapist personally to explain significant findings.

We give the therapists the following results –

1. If it is necessary for glasses to be worn for therapy tasks.
2. The amount of vision present for near and distance and how this would affect certain tasks.
3. We explain the problem a patient may be having with reading i.e. the words at the beginning of a line are lost by left hemianopias and letter and word sequences are difficult for right hemianopias.
4. Fields are plotted as accurately as possible because many patients have a "unilateral neglect". "This neglect ranges from a passive to an active neglect of the affected side of the body, the neglect being visual, motor or sensory or a combination of these. The patient may not use the affected limb, i.e. when asked to raise his arms he will raise only one arm although motor power is normal. The unaffected arm may not cross the midline to wash affected side of the body".[1] The therapists need

to know whether the patient has an actual field loss or a neglect. Macular sparing is noted for reading and fine skills. Fields are repeated to observe changes as recovery takes place.

5. We explain the significance of control of phoria or problems resulting from a squint (recently acquired due to C.V.A. or present prior to C.V.A.) such as diplopia.

6. Ocular motility defects mean an explanation of whether A.H.P. should be retained. The normal therapy technique is to have straight head, to help balance. For nystagmus we are able to arrange an E.N.G. for positioning the head where nystagmus is least worrying.

7. We relate Wirt Titmus to tasks requiring finer degrees of depth perception (judgement with stairs etc.)

8. Colour testing is important because much therapy especially speech therapy depends on colour cues.

Orthoptic problems are referred back to us by the ophthalmologist and the usual orthoptic techniques of occlusion, Fresnel prisms and lenses, convergence insufficiency exercises, progressive Hess charts etc. are used.

As therapy for reading with hemianopias we suggested the use of a piece of black cardboard placed on the left side of the page. This ensures that the patient comes back to the beginning of the line with a left hemianopia. Large print books are suggested for right hemianopias to learn to read letters in sequence. If lines are skipped the cardboard is placed under each line and moved down line by line. This is reinforced by the occupational therapist.

Special adaptations of tests for C.V.A. patients

1. History

History with expressive aphasic patients has to be reduced to simple 'yes' or 'no' answers; but at times these responses are not accurate so the therapist has to be consulted first.

2. Glasses

It is important to ask if the glasses belong to the patient as several of our patients were found to be wearing other people's spectacles. We also label the near and distance glasses, as confusion often occurs.

3. Vision Testing

The patients, who are unable to respond to any other form of testing are tested by Catford drum. Those aphasic patients with expressive problems are tested with Sheridan Gardiner board and near vision is tested with reduced Snellen's chart. Also we use a reading passage, and give the patient descriptive pictures, to be matched correctly to the passage.

Figure 1. Demonstrating use of Sheridan Gardiner board, to aphasic patient.

4. Ocular Motility

Ocular motility for saccadic movements can be tested using opto-kinetic nystagmus, if patient will not concentrate on fixating two separated targets.

Examples –

a. Mrs. R.J. (C.V.A.)
Her hyperphoria became manifest after C.V.A. Resulting diplopia was joined by prisms. Reading and walking both improved remarkably from then on.

b. Mr. C.T. (C.V.A.)
Mr. C.T. was found to have an almost complete right homonymous hemianopia with very little macular sparing. His difficulty in reading caused such frustration that he was becoming violent with his family. By repositioning his reading material and taking each word slowly, Mr. T. gradually improved his reading ability and his whole attitude changed.

c. Mrs. M.B. (C.V.A.)
This lady developed a squint with diplopia which could not be joined by prisms or abnormal head posture. When given alternate occlusion, she was able to cope well with therapy sessions.

d. Mr. S. (C.V.A.)
Mr. S. was referred complaining that recently acquired glasses did not give clear vision. However, his near vision proved to be R.N5, L.N6. We found that the present glasses were adequate, and were able to convince him that the "loss of focus" after reading a few words was due to fine but irregular left beating nystagnmus. This nystagmus fortunately disappeared spontaneously.

e. Mrs. E.H. (C.V.A.)
She had bilateral cataracts, with VR. 6/60, VL 6/60, which she accepted as "just a part of being old". She was referred by a physician to the eye clinic, and the therapist was informed of the state of vision and the limitations it imposed.

f. Mr. B. (C.V.A.)
Was a right leg amputee and had a blind left eye due to an accident. He had a complete right homonymous hemianopia, and needed to use a pronounced face turn in order to make the most use of his small visual field.

We feel very strongly that the orthoptist has an essential role in the rehabilitation of C.V.A. patients. Orthoptists have the necessary background knowledge in neurology to contribute to their total assessment. We can assist the therapist to plan the treatment programme. At the same time we can save the patient from discouragement, by ensuring that he shall not be asked to perform a task which is beyond his visual capability. We also give orthoptic treatment where this is applicable.

In each hospital where C.V.A. patients are admitted for sufficient time to begin rehabilitation training, provision for orthoptic assessment should automatically be included. We must be ready to offer our services as an integral part of the therapy team.

Our thanks are expressed to Dr. Shirley Sarks and the other Ophthalmologists in the Eye Department at Lidcombe Hospital, Dr. G. Carter, the Medical Superintendent, the physicians, neurologists, registrars and residents and all the therapists for the help and support they have given to us.

*REFERENCES **

1. *Australian Association of Occupational Therapists Journal*

2. *Parietal Lobes – McDonald Critchley.*