

A PILOT STUDY

ABSTRACT OF A STUDY TO MEASURE THE POSSIBLE DIFFERENCES IN THE PERCEPTION OF PAIN AND TEMPERATURE IN HEMIPLEGIC PATIENTS

■ Hale LA, M Sc (Physio), Physiotherapy
Department, University of Witwatersrand

INTRODUCTION

The peripheral sensations of pain and temperature are so closely linked anatomically¹ that often only one is assessed during the physiotherapy examination of a neurologically impaired patient. The assumption is made that they would either both be affected or both be normal. Usually pain perception is evaluated as it is the quicker and easier of the two tests. However, could it be possible that pain sensibility be normal, yet temperature abnormal? This scenario could have dire consequences for the patient, as the therapist would neglect to warn the patient or his/her care giver of the possibility of burning themselves, for instance, when climbing into too hot a bath, or sitting too close to a heater. A pilot study investigated the validity of this assumption in subjects having sustained a cerebral vascular accident (CVA).

PROCEDURE

The pain and temperature perceptions of twenty-two acute (less than three months prior) CVA patients were assessed. Pain was assessed using the pin prick method, and temperature, using hot and cold test-tubes on both sides of the body in thirteen different areas^{2,3}.

RESULTS

There were fifteen female and seven male subjects tested, nine of whom had right CVA's, while thirteen had sustained left CVA's. Eight of the subjects had normal sensation, and ten had both pain and temperature decreased. Four of the subjects (all left CVA's) reported a normal perception to pain, but this was decreased as compared to temperature, especially to heat.

DISCUSSION

The results were in keeping with those of Samuelsson *et al*⁴. However, the study requires more stringent inclusion criteria, for example a smaller age range as the appreciation of sensation may decrease with age, and a larger sample in order to determine the difference between left and right CVA's. Only middle cerebral artery territory strokes should be included. Unfortunately the nature of the assessment of sensation requires that the subject be able to understand the test and be able to communicate their reply, thus aphasic subjects, both receptive and expressive would have to be excluded. Follow-up studies may have to be included, as sensation perception may improve with time following a CVA¹.

CONCLUSION

Although there was not conclusive evidence these two sensations may be affected differently by a CVA, there were examples of when it did occur. Perhaps it is incumbent on physiotherapists to warn all their clients of the possibility and consequences of a loss of temperature sensation, even if pain perception appears normal.

REFERENCES

1. Guyton A C. *Basic Neurosciences: Anatomy and Physiology*. 1st Ed. Philadelphia: W B Saunders 1987:168-181.

2. Shinar G, Gross C R, Mohn J P *et al*. Inter-observer variability in the assessment of neurological history and examination in the Stroke Data Bank. *Arch Neurol* 1085:42;557-565.
3. Tomasello F, Mariani F, Fieschi C *et al*. Assessment of inter-observer differences in the Italian multicentre study of reversible cerebral ischaemia. *Stroke* 1982;12:32-33.
4. Samuelsson M, Samuelsson L, Lindell D. Sensory symptoms and signs and results of quantitative sensory thermal testing in patients with lacunar infarct syndromes. *Stroke* 1994;25(11):2165-2170.

■ (This research has gained the approval of the Committee for Research on Human Subjects, University of the Witwatersrand. Ref. No. = M 940610).

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