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Opinion OMICS International

Finger Nose Proprioceptive Test

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Opinion

Dorsal column of the spinal cord conveys proprioceptive information and can be deficient in variety of conditions (compression, contusion, infarction, demyelinated diseases (Multiple sclerosis, Tabes dorsalis etc.) and in variety of peripheral neuropathies.

Integrity of dorsum column can be tested clinically by asking the patient to close the eyes and asking the position of joints after passively moving them. It is quite time consuming and difficult to do in short clinical consultation. Doral column integrity can be screened by doing Romberg's test where the patient becomes unstable after closing the eyes while standing. This test is for the lower limbs proprioception. There is no screening test for upper limbs and the author is proposing one.

We are able to touch the tip of the nose with a finger, eyes open or closed. If proprioception is impaired, the finger will miss the tip of the nose when the eyes are closed (Figure 1). Depending on the severity impairment, the nosed can be missed from just a few millimetres to centimetres. This test is Finger Nose Proprioceptive test (FNPT).

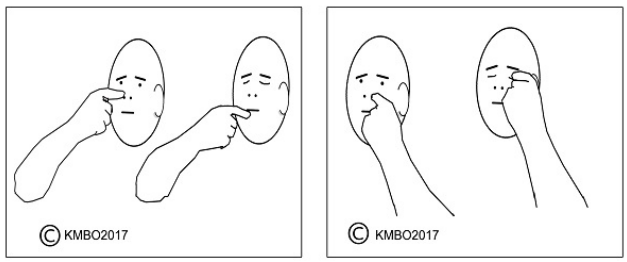

Figure 1: Small scale pilot study on FNPT.

Methodology

All Multiple Sclerosis seen in clinic/Home visits during the month of September 2017, Romberg's sign was tested at the same time.

Exclusion criteria

- Weak upper limb muscles (<3/5 MRC scale),
- Involuntary movements of hands,
- Intentional tremor,
- Painful upper limb,
- Severe cognitive impairment

Findings

22 MS patients were seen (Table 1), nobody met exclusion criteria. FNPT was positive in 10 patients (45%) and Romberg's sign was positive in 17 patients (77%). Romberg's sign was not possible to test in two patients as their legs are too weak to stand (Table 1). There were 12 female patients and 10 male patients. Average duration of the disease was 14. 77 years (3 - 36) and average age of patients was 55 years (32 -67).

The other noticeable finding is that all patients who are FNPT positive are also Romberg's test positive but not vice versa.

Application

This can be used as an exercise to improve dorsal column function.

Variables	Age	Sex	MS	FNPT	Romberg's
RC	32	F	3	Ok	+
JH	55	F	29	+	+
MP	61	F	36	Ok	Ok
MF	53	M	29	Ok	+
GG	67	F	17	Ok	+
MW	62	M	22	Ok	+
DH	58	M	15	+	+
SW	66	F	11	Ok	+

VB	62	F	3	Ok	+
AS	50	F	5	Ok	?
JS	39	M	6	+	+
SR	58	F	28	+	+
KO	55	M	14	+	+
AB	57	F	11	+	?
JS	54	F	10	Ok	Ok
SH	57	M	19	+	Ok
SG	62	M	12	+	+
JM	43	M	12	+	+
SL	52	F	7	Ok	+
LB	63	F	30	Ok	+
GO	61	M	3	+	+
DV	43	M	3	Ok	+

Table 1: Larger studies need to follow to validate the FNPT.

Conclusion

FNPT was very easy to perform in about 20 to 30 seconds; patients do not need to stand and very specific to dorsal column deficiency. The test result can be quantified by the distance missed form the tip of the nose. Larger studies need to follow to validate the FNPT.