ever, single fibre electromyography (SFEMG) in extensor digitorum communis muscle (EDC) showed increased jitter and intermittent impulse blocking, without significant differences between both examinations (fig). Thus, a mild to moderate subclinical impairment of neuromuscular transmission was present.

The onset of myasthenia gravis after thymectomy may occur in 0-9 to 2% of all patients with myasthenia gravis and in 10% of patients with thymoma. Only one out of 140 patients of myasthenia gravis examined by us in the last 8 years developed myasthenic signs and symptoms, 7 weeks after removal of the thymoma.

The electrophysiological findings in our case show that neuromuscular transmission can also be impaired in patients with thymoma but without clinical signs of myasthenia gravis. Moderately increased jitter and impulse blocking were found at 3 weeks and 17 months after thymectomy, whereas signs of clinical fatigability were still absent 2 years after removal of the thymoma. Unfortunately, the anti-acetylcholine receptor antibody (anti-AChR) levels were not measured and serum for their determination was not available. Thus, the correlation between antibodies level and SFEMG findings is not possible in this case. High anti-AChR levels have been found in some patients with thymoma but without myasthenia gravis. These results are in agreement with our findings, although the level of anti-AChR in the reported patient is not predictable since abnormalities in SFEMG can be found in cases of myasthenia gravis with normal anti-AChR levels.

Two possible conclusions arise from the present observation. (1) If the patient should develop myasthenia gravis at some future time, the mild SFEMG abnormalities can be attributed to the initial expression of the disease, since it is known that SFEMG is the most precise and earliest method of detecting impairment of neuromuscular transmission. (2) Should the patient not in due course develop myasthenia gravis it may conclude that an unknown percentage of patients with thymoma may have subclinical impairment of neuromuscular transmission.

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Addendum

After submission of the paper, a new clinical and electrophysiological examination has been performed 29 months after thymectomy. Clinical test of fatigability was again normal. SFEMG was evaluated in EDC and frontalis muscles. Motor unit fibre density in EDC was normal (1-7). Individual jitter was increased in nine out of 20 end-plates in EDC and in four out of 10 end-plates in frontalis. Intermittent impulse blocking was found in three (EDC) and two (frontalis) potentials. Thus, mild generalised subclinical neuromuscular transmission impairment was found more than 2 years after removal of the thymoma.

References


Letters

Testing the plantar reflex

Sir: I read with interest the report by Dr Tashiro, in which he described yet another method to produce the upcoming toe sign.1 Added to those I reviewed some time ago,2 this must be the 15th variety, with exclusion of responses that are not even exteroceptive.3 Before others join the game of eponyms4 that was so popular at the beginning of this century, I should like to point out there is but a single pathological reflex of the leg. That is when the extensor hallucis longus muscle (inappropriately christened by anatomists, because it acts as a flexor) is released to join the flexion reflex of the leg,5 as it does in the first year of life.

In some patients almost any stimulation of the skin will evoke the upcoming toe sign, from pricking the sole (as Babinski originally did) to stroking the thigh.6 Giving each strip of skin a different name is confusing to neurologists and cruel to students. Babinski himself illustrated the point with the parable of a Spanish nobleman who had eight names and who, on a cold night, was refused accommodation by an inn-keeper who did not realize there was only one person at the other side of the door.8 More recently, Denny-Brown was quoted to have replied, on being told that in a particular patient the Oppenheim and Chaddock signs were positive but the Babinski response was negative, "I don't want a Gallup poll; what was the plantar response?"9

In addition, there is more to a pathological plantar response than an upcoming toe.10 First, contraction of the extensor hallucis longus should be synchronous with other components of the flexion synergy of the leg. Secondly, voluntary withdrawal can be confusing but is less constant than the flexion reflex, does not usually involve the tensor fasciae latae muscle, and often precedes or outlasts the stimulus.

I agree with Dr Tashiro that stroking the dorsum rather than the sole of the foot is less likely to produce interference by more or less voluntary reactions. In that case one fails to elicit the normal (downgoing) toe sign, which is a local reflex of the sole,3 but the purpose of the examination is to find out whether or not the response is abnormal. For myself I prefer the lateral to the middle part of the dorsum, and a small wooden stick to the handle of a patella hammer. But I
Matters arising

must admit that these choices have not yet been subjected to a trial with independent observers. Such a design is necessary, because the interpretation of plantar reflexes is biased by previous expectations.1

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References


Acute dysautonomia associated with Hodgkin’s disease

Sir: With great interest we read the article by Dr van Lieshout and colleagues about acute dysautonomia associated with Hodgkin’s disease.1 As a measurement of blood pressure responses induced by the Valsalva manoeuvre an indirect recording of finger blood pressure was used by the authors. Unfortunately, the complete reference was not given. So far, photoplethysmographic recordings of finger volume have been used as a non-invasive check that the Valsalva manoeuvre has been adequately performed, if arterial recording is not possible but rate changes are being studied.2 As an alternative to studying the Valsalva manoeuvre non-invasively we use transcranial Doppler ultrasound recordings of middle cerebral artery flow velocity. During the Valsalva manoeuvre the middle cerebral artery flow velocity shows changes which are in parallel with the well known changes of intraarterial blood pressure. The accompanying figure displays an example in a normal subject. By means of transcranial Doppler ultrasound recordings of middle cerebral artery flow velocity it is also possible to demonstrate postural responses in a simple and non-invasive way. Compared with measurements over finger arteries, measurements of middle cerebral artery flow velocity allow a better visualisation of autonomic reflexes in a more central part of the circulation.

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References


Van Lieshout et al reply

We thank Drs Reinecke and Langohr for their interest in our paper. It is indeed unfortunate that the full reference to the FIN.A.PRES method was dropped accidentally from the list after proof reading. We agree that conventional photoplethysmography on the finger, although satisfactorily representing finger skin blood flow, is an inadequate reflection of arterial blood pressure. However, the volume clamp method of Peñáz1 improved and tested by Wesseling and coworkers,2–4 as used in the FIN.A.PRES instrument provides a continuous, calibrated, phasic recording of finger arterial pressure non-invasively, as exemplified by a typical record in the figure, taken during a Valsalva manoeuvre.