Matters arising

The relation of essential tremor to Parkinson's disease.

Sir: We note with interest the absence of a genetic linkage between essential tremor and Parkinson's disease reported by Marttila *et al* from their epidemiological studies in a Finnish population.¹

Unfortunately the precise incidence and prevalence of essential tremor in the United Kingdom is not known as no properly constructed epidemiological studies have yet been carried out, though indirect evidence suggests that, as in the Finnish survey² essential tremor is a common disorder. In agreement with Marttila *et al* our uncontrolled observations on more than 400 patients with essential tremor seen over the last five years have not suggested a greater incidence of Parkinson's disease in either the patients themselves or their relatives than one would expect to find in the general population. However, until the prevalence of essential tremor within the UK population is established by much needed community-based epidemiological studies, the possibility of a genetic link between essential tremor and Parkinson's disease cannot be discounted entirely.

The occurrence of "an additional tremor of the essential tremor type" in patients with Parkinson's disease needs clarification. For instance Shahani and Young³ describe the presence of an action tremor of higher frequency than the typical rest tremor in 5–10% of patients with Parkinson's disease. In fact, surveys have shown higher frequency action or postural tremor to be common in Parkinson's disease co-existing with, and separate in origin from, the characteristic lower frequency tremor of rest.^{4,5} In a study of 60 patients with Parkinson's disease, symptomatic postural tremor was as common as the rest tremor and in more than 80% of patients, two corresponding peaks could be seen to co-exist in the tremor spectrum.⁵ This feature we have found pathognomonic of Parkinson's disease.^{5,6} Using techniques of waveform analysis other, separate tremors of different frequencies can also be seen in some patients.⁷ Thus, action and postural tremors are an integral part of the tremulous phenomena seen in Parkinson's disease. These tremors have behavioural characteristics in common with other postural and action tremors, including essential tremor, and may share common underlying pathophysiological mechanisms. However,

Parkinson's disease and essential tremor are distinct nosological entities, separable in terms of structural pathology and prognosis.

To avoid confusion it would be preferable if the term "tremor of essential type" was not used when referring to tremors of Parkinson's disease. The overlap in phenomenology between essential tremor and Parkinson's disease may account for the frequency with which the former is misdiagnosed as the latter.⁸

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References

- Marttila RJ, Rautakorpi I, Rinne UK. The relation of essential tremor to Parkinson's disease. *J Neurol Neurosurg Psychiatry* 1984;47:734–5.
- Sevitt I. A comparison of propranolol and benzhexol in essential tremor. *Practitioner* 1974;213:91.
- Shahani BT, Young RR. Physiological and pharmacological aids in the differential diagnosis of tremor. *J Neurol Neurosurg Psychiatry* 1976;39:772–83.
- Lance JW, Schwab RS, Peterson, EA. Action tremor and the cogwheel phenomenon in Parkinson's disease. *Brain* 1963;86:95–101.
- Findley LJ, Gresty MA, Halmagyi GM. Tremor, the cogwheel phenomenon and clonus in Parkinson's disease. *J Neurol Neurosurg Psychiatry* 1981;44:534–46.
- Gresty MA, Findley LJ. Postural and resting tremors in Parkinson's disease. In: Hassler RG, Christ JF eds, *Advances in Neurology*. Vol 40. New York, Raven Press, 1984;361–4.
- Findley LJ, Gresty MA. Tremor and rhythmic involuntary movements in Parkinson's disease. In: Findley LJ, Capildeo R eds, *Movement Disorders—Tremor*. Macmillan Press, 1984;295–304.
- Dupont E. Parkinson's disease and essential tremor: Differential diagnostic and epidemiological aspects. In: Rinne UK, Klinger M, Stamm G eds, *Parkinson's disease—Current Progress, Problems and Management*. Elsevier/North-Holland Biomedical Press, 1980;165–79.
- Shimizu T. Clinicopathological studies on Behcet's disease. In: Dilsen N, Konice M, Ovil C, eds. *Behcet's Disease: Proceedings of an International Symposium on Behcet's Disease*. Amsterdam-Oxford: Excerpta Medica, 1979:9–43.
- Fisher CM. The pathology and pathogenesis of intracerebral hemorrhage. In: Fields WS, ed. *Pathogenesis and Treatment of Cerebrovascular Disease*. Springfield: Charles C Thomas, 1961:295–317.
- Anders HE, Eicke WJ. Über Verengerungen an Gehirngefassen bei Hypertonie. *Z Ges Neurol Psychiatr* 1939;167:562–75.
- Feign I, Prose P. Fibrinoid arteritis of the brain associated with hypertension and gross cerebral hemorrhage: a form of "hyalinosis". *Trans Am Neurol Assoc* 1958;83:71–4.
- Fisher CM. The pathologic and clinical aspects of thalamic hemorrhage. *Trans Am Neurol Assoc* 1959;84:56–9.
- Scott D. Mucocutaneous-ocular syndrome (Behcet syndrome) with meningoencephalitis: report of a case with autopsy. *Acta Med Scand* 1958;161:397–400.
- Bienenstock H, Margulies ME. Behcet's syndrome: report of a case with extensive neurologic manifestations. *New Eng J Med* 1961;264:1342–5.
- Imaizumi M, Nukada T, Yaneda S, Abe H. Behcet's disease with sinus thrombosis and arteriovenous malformation in brain. *J Neurol* 1980;222:215–8.
- Ueda T, Gondo M, Kitano I, Kinoshita K, Kikuchi I. Vasculo-Behcet's disease with superior sagittal sinus thrombosis—case report. *Brain Nerve* 1982;34:349–54.
- Segasothy M. Behcet's syndrome with sagittal sinus and inferior vena caval thrombophlebitis. *Med J Malaysia* 1982;37:132–3.
- Aksel IS. Au sujet d'une forme confusionnelle-encephalitique de la maladie de Behcet. Etude anatomico-clinique et electro-encephalographique. *Rev Neurol (Paris)* 1958;99:316–22.
- Ford RG, Siekert RG. Central nervous system manifestations of periarteritis nodosa. *Neurology (Minneapolis)* 1965;15:114–22.
- Harvey AM, Shulman LE, Tumulty PA, Conley CL, Schoenrich EH. Systemic lupus erythematosus: review of the literature and clinical analysis of 138 cases. *Medicine* 1954;33:291–437.
- Johnson RT, Richardson EP. The neurologic manifestations of system lupus erythematosus. *Medicine* 1968;47:337–69.
- Edwards KR. Hemorrhagic complications of cerebral arteritis. *Arch Neurol* 1977;34:549–52.

J Neurol Neurosurg Psychiatry first published as 10.1136/jnnp.48.2.192 on 1 April 1987. Downloaded from http://nnp.bmj.com/ on 10 April 2023 by guest. Protected by copyright.