do not persist for more than three weeks. Likewise, there was no evidence of haemosiderin deposition in the stalk which might be expected after haemorrhage. Stalk enlargement could have been an effect of untreated diabetes insipidus, in which the first case might have expected resolution of the abnormality with treatment. However, the swelling persisted for three months despite adequate treatment of the diabetes insipidus. It is possible that unrecognised injury or infection with ensuing inflammation resulted in the swelling observed initially. It is known that insults to the stalk can lead to reorganisation and proximal enlargement. We may have observed the resolution of such changes. We conclude that pituitary stalk enlargement may occur in idiopathic cranial diabetes insipidus, persist for months, and eventually disappear. Serial imaging with CT or MRI will exclude progressive infiltrative or neoplastic causes.

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Ropinirole (SK and F 101468) in the treatment of Parkinson’s disease

Ropinirole (4-[2-(dipropylamino)ethyl]-1,3-dihydro-2H-indole-3-carboxylic acid), a selective dopamine D2 agonist has been shown to have anti-Parkinsonian effects at doses between 0.6 mg twice a day and 2 mg twice a day in an open inpatient study.2 We report the results of a further outpatient open study in fourteen patients with idiopathic Parkinson’s disease. Participating in the study were seven patients with presumed Parkinson’s disease (mean age 56.5 years, disease duration 2.5 years and mean Hoehn and Yahr Stage II) and seven patients with disabling levodopa-induced on-off oscillations (median age 66 years, disease duration 10.0 years and duration of levodopa treatment 4.0 years, daily levodopa dose 750 mg, median duration of disabling oscillations 1.0 years, mean Hoehn and Yahr stage when “off” III and when “on” II). Four of the patients treated with levodopa had severe interdose ashiness and one patient had biphasic dyskinesias. Three patients were also receiving anticholinergic medication, three were taking L-depenyl (selegiline); none of the patients had a history of psychiatric disorder or evidence of hepatic, renal or cardiovascular dysfunction.

Both groups were initially treated with 0.6 mg of ropinirole twice daily for one week. The dose was increased to 1 mg twice daily for the second week. By the fourth week, increments of 1 mg twice daily to a maximum of 7 mg twice a day over an eight week period. If adverse reactions developed, patients continued on the previously tolerated dose for another week. By the fifth week, the dose of less than 1 mg twice a day was made; if gastrointestinal side-effects or symptomatic orthostatic hypotension re-occurred, despite modification of ropinirole dosing, domperidone 20 mg twice daily was introduced. This continued during the remaining trial period. If interdose dyskinesias increased in the oscillating patients levodopa was concomitantly reduced. After each dose in patient trials, observations of standing pulse and blood pressure were made at baseline and then hourly for the following four hours.

Motor assessments were carried out on the day of dose increase before and two hours after dosing, using the Modified Webster scale and tapping and walking tests.2 Assessment of motor fluctuations were carried out using self-scoring diaries to record a percentage daily “on” time and severity of dyskinesias.

Of the previously untreated patients two showed improvement comparable with that seen with oral levodopa at doses of 12 mg and 6 mg a day respectively. This patient had a Webster score which reduced from 14 to 10, a 44% increase in the number of finger taps and a 40% decrease in walking time. The second patient had a similar improvement in these cases, but could not increase the dose further because of nausea despite domperidone. Two of the de novo patients dropped out before the treatment period was finished, one because of reductions of tying and standing and the other because of nausea despite domperidone. Four of the second patients with levodopa-induced on-off oscillations showed a worthwhile clinical response with a reduction of mean “off” hours per day from 3.9 (1.9-6.5) to 1.3 (0.4-2.0) mg a day. Three of these patients subsequently responded to amantadine or tolcapone.

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Ropinirole is a novel dopamine agonist which has been shown to be effective in the treatment of Parkinson’s disease.1 It is well absorbed following oral administration and has a short duration of action. It may be effective as an adjunct therapy to levodopa and as an alternative to dopamine agonists where levodopa has reached maximum efficacy. We report our experience with ropinirole in the treatment of patients with Parkinson’s disease.

Methods

Patients

The study included 21 drug-naive, untreated patients, 25 male and 11 female, 15 insulin treated, mean age 54 years (range 30-82), mean duration of diabetes 17.4 years (range 3 months–51 years). All had symptoms which may have been due to diabetic neuropathy.

They underwent heart rate monitoring using a computer-assisted system for the collection and analysis of heart rate data from cardiovascular autonomic function tests (RR Measurement Technologies, Leeds, UK). A vasalval manoeuvre was performed by the patient blowing into the tube of a sphygmomanometer and sustaining a pressure of 40 mm Hg for 15 seconds while the R-R interval was recorded, the result being expressed as the Valsalva ratio: the longest R-R interval divided by the shortest R-R interval during the manoeuvre. All the patients performed the manoeuvre properly and, as far as could be ascertained, achieved an intrathoracic pressure which was adequately raised. Heart rate variability during deep breaths was calculated by the patient resting quietly and breathing deeply in over five seconds and

Cardiovascular autonomic function tests are three Valsalva and six deep breaths necessary or will singles do?

In the assessment of autonomic neuropathy, two widely used tests of cardiovascular autonomic function assess the heart rate response to three consecutive Valsalva manoeuvres and to six consecutive deep breaths.1 We aimed to see whether the response to a single Valsalva manoeuvre was significantly different from that from the average of three and whether the response to a single deep breath was significantly different from that from the average of six deep breaths.

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then out for over five seconds whilst recording the R-R interval. The maximum and minimum R-R intervals were converted to heart rates, with the difference between them being the heart rate variability.

Three Valsalva manoeuvres were performed consecutively for each patient as described by Ewing and the Valsalva ratio was calculated for each. The Valsalva ratio from the first manoeuvre was compared with the mean-of-three. Heart rate variability was obtained from a mean-of-six deep breaths and from a single deep breath performed in random order.

Seventeen patients with a mean-of-three-derived Valsalva ratio less than 1:21 (abnormal according to previous criteria) had a single Valsalva ratio less than 1:21. Seventeen patients with a mean-of-three-derived Valsalva ratio greater than 1:21 had a single Valsalva ratio greater than 1:21. Twenty-three patients with a mean-of-six-derived heart rate variability less than, or equal to, 10 beats per minute (abnormal according to previous criteria) also had a single breath-derived heart rate variability less than, or equal to, 10 beats per minute. Nine of ten patients with mean-of-six-derived heart rate variability less than 10 beats per minute (normal or borderline according to previous criteria) also had a single breath-derived heart rate variability greater than 10 beats per minute.

Thus, a single Valsalva ratio finds the same result as a mean-of-three-derived Valsalva ratio with a sensitivity of 16/17 (94%) and a specificity of 17/19 (89%). Similarly, a single breath-derived heart rate variability gave the same result as a mean-of-six-derived heart rate variability with a sensitivity of 23/24 (96%) and a specificity of 9/12 (75%). The Valsalva data were further analysed by estimating the components of variance of the three Valsalva ratio readings from each patient. In keeping with the hypothesis that one Valsalva manoeuvre is sufficient, within-subject variance (0.11) was extremely small in comparison to between-subject variance (4.17).

The mean (SEM) time taken to do a single Valsalva ratio and a single breath heart rate variability was 5.70 (0.74) minutes, significantly less than that to do three Valsalva ratios and derive the heart rate variability from a mean of six breaths (14.38 (0.68) minutes, p < 0.0001).

A single Valsalva ratio and a single breath-derived heart rate variability gave similar results to those derived from multiple procedures and took far less time to perform. There were only a small number of cases where there were discrepancies with the classification of a patient as abnormal or not. As there is no gold standard for the presence or absence of autonomic neuropathy in a particular patient it is not possible to produce a percentage of discrepancy, whether the multiple tests were right, or vice versa. As it turned out, in most of these cases of discrepancy, the actual numerical values were similar for the same patient on different sides of the lower limit of normal used.

Many patients find the Valsalva manoeuvre uncomfortable and performing three consecutively is considerably more of an ordeal for the patient than performing just one. The single deep breath is an extremely quick and simple test. There would seem to be no benefit to be gained from continuing to use the test, that three Valsalva manoeuvres and six deep breaths when performing cardiovascular autonomic function tests. Use of the shortened tests should enable more patients to be studied more quickly and easily, without loss of accuracy of testing, as long as the test is performed properly.

In the assessment of autonomic neuropathy a battery of tests is considered preferable to relying on just one. A battery of five tests has been proposed by Ewing and Clarke and these are well established and much used around the world for clinical and research purposes. Nevertheless, it has recently been proposed that a battery that based on O'Brien and coworkers might be preferable. Several potential advantages for the tests in the latter battery, compared with those in the battery of Ewing, have been suggested—that they are easier and quicker to perform, more comfortable for the patient, more accurate in that they use age-related normal ranges based on a large group of normal subjects, and they generate less artifacts. As this "O'Brien battery" uses only one deep breath and one Valsalva manoeuvre, the findings of our study add further weight to the arguments in favour of its genera. adoption as the cardiovascular battery of choice in the assessment of autonomic neuropathy.

**Reference:**


**Reference:**


**Reference:**


**Reference:**


**Reference:**


**Benign relapsing meningitis-myelitis**

Myelitis and encephalomyelitis are relatively common both as monophasic or relapsing diseases. Investigation of an infectious cause is essential at the first presentation particularly if the cerebrospinal fluid has inflammatory features. Multiple sclerosis would be the most common diagnosis in those cases with a relapsing course.

We describe a young man who presented at 10, 13 and 16 years with three stereotyped attacks of meningo-myelitis. Aetiological investigations were negative and we found only one report on three similar cases in the literature.

The boy was born in 1972, lived in Paris and returned to Portugal when he was eight. He currently lives in a small village working as a shoemaker.

In December 1983 he presented with fever, vomiting and headache which was followed by drowsiness and an inability to walk. When first seen two weeks later he appeared alert, very sleepy but cooperative, and there was no sensory loss from the T8 level, urinary retention and almost absent tendon reflexes with extensor plantar responses. He was febrile (40°C) and the cerebrospinal fluid showed 0-92 x 10^6/l cells (mainly lymphocytes), 0.70 g/l protein and 2.75 mmol/l glucose. Four days later he was paraletic with a higher sensory level (T4) and some respiratory distress. He was treated with dexamethasone and to cover the possibility of tuberculosis infection isoniazid, rifampicin and streptomycin was started. After two weeks there was gradual recovery of motor, bladder and sensory functions which was complete by four months.

In December 1985 he developed a second episode. After a short period of fever and myalgia he developed a flaccid and areflexic paraparesis with a sensory loss below T8, urinary retention and bilateral extensor plantar responses. Three days later he progressed to a tetraplegia with increasing respiratory difficulty and he required assisted ventilation for eight days. The CSF showed 94 x 10^6/l cells (mainly lymphocytes), 3-91 mmol/l glucose and 0-60 g/l protein. After a month he recovered almost completely and at four years the neurological examination was entirely normal. During this admission he was treated with sulphamethoxazole and trimethoprim for an intercurrent urinary tract infection.

His third episode occurred in December 1988 when he presented with pyrexia, headache and drowsiness. When aroused he was confused and agitated. Over the next few days a flaccid and areflexic tetraparesis again developed. There was no evidence of a sensory loss level but proprioception was impaired and urinary retention was present. The cerebrospinal fluid contained 64 x 10^6/l cells (lymphocytes), 2.74 mmol/l glucose and 0-92 g/l protein. During recovery a spasitic paraparesis emerged and a cerebellar syndrome with nystagmus, scanning speech, and bilateral dysmetria was noted. A few months later the neurological examination was again normal. During this admission he was treated with dexamethasone and ceftriaxone to cover the possibility of Lyme disease.

During the three admissions the following investigations were normal or showed a mild elevation: in the serum: red and white cell blood counts, haemotocrit, erythrocyte sedimentation rate, electrolytes, urea nitrogen, creatinine, glucose, liver and kidney function tests, tumour markers, autoantibodies and autoantibodies and enzyme-linked immunosorbent assay (ELISA) tests for antibodies, anti-HIV and anti-HIV2, CMV IgG and IgM complement fixation titre, complement fixation titres for other viruses (herpesvirus, adenosivirus, parainfluenzae 1 and 3, measles, dengue, respiratory syncytial virus), and in the convalescent periods, indirect immuno-fluorescent test for Lyme disease (Institut Pasteur, Paris) and serological tests for toxoplasmosis and antrites.

In the CSF there were normal or negative results for: microscopical examination of stained specimens (Gram) and cultures for aerobic and anaerobic bacteria, fungi, acid-fast bacilli and cryptococcus, complement fixation titres for virus in acute and convalescent periods.