28: PERIPHERAL NERVE DISEASES

28-28-01 THE ROLE OF VIBRATORY AND SENSITIVE TESTS IN DIABETIC PERIPHERAL NEUROPATHY: A MULTICENTER STUDY ON 467 DIABETIC PATIENTS


Diseases Service, G. Erizzo Hospital, Via Vendramini 7, 35317 Padova; Medical Department and Biostatistical Department, Fidia S.p.A., Abano Terme (PD); University of Perugia, University of Roma, University of Bologna; University of Milan; University of Firenze.

Specificity (SP), sensitivity (SE) and diagnostic accuracy (AD) of bietoemeter (VPT), Diapason (TP) and Thermocross (TPC). Each of the seven clinical electrophysiological diagnostic (toxic evaluation of neuropathy's symptoms and findings made in the sensory reflexes, measurements of motor conduction (VCS) and sensitive (VCS) speeds respectively with the distal to proximal external and internal sural nerves). We studied 467 diabetic patients (coming from 60 centers in the Diabetes, BM, MI, FI, BO age between 31.5-115 (M.D. 70, TP: 367 and 275 p<0.01), with a diabetic duration of 14.5 ± 10 years and HbA1c of 8.2 ± 1.8%, not suffering from hypertension, neurosis, obesity or neuropathy and other known causes of peripheral neuropathy and thus being a specific therapy for the neuropathy. For the gold standard (presence of neuropathy) we considered the simultaneous alteration of motor and sensitive conduction velocities in the two nerves. We obtained the following results:

<table>
<thead>
<tr>
<th>Site</th>
<th>SE (SP, AD)</th>
<th>TP</th>
<th>VPT</th>
<th>DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allux</td>
<td>SE (SP, AD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malleolus</td>
<td>SE (SP, AD)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This TP is connected with VOM, VCS and TP (p<0.001). The TPT at the internal and external malleolus is connected with VPCS and TP (p<0.001, with VOM at 0.02, VPT: TPF and TPF: internal are connected with age and duration of the disease p<0.0001). VOM is connected with age p<0.001 and not with disease duration, VCS is connected both with disease and duration age p<0.0001.

28-28-02 ELECTROPHYSIOLOGICAL ASSESSMENT OF LOWER URINARY TRACT IN CAUDA-COONUS SYNDROME

Y. Sarica, M. Yarag, M. Zadeh, M. F. Reen, Dept. of Neurology, Kukurova University, School of Medicine, Adana, Turkey.

To investigate the vesical and somatic nerves of 15 patients with cauda-coonus syndrome were studied by recording the bulbarocavaneous reflex (BCR) and cerebral potentials (CEP) by evoked by stimulation of vesical and somatic nerves of lower urinary tract. Cystometry was also recorded.

The CEPs by stimulation of pelvic nerves at vesico-urethral junction and cystometry were abnormal in all patients. Out of 15 patients, CEP following the stimulation of pedural nerve at glans level were abnormal in 14. BCR to pelvic and pedural nerve stimulation was either absent or prolonged in latency in 11 cases. CEP by posterior tibial stimulation were abnormal in only 10 cases, uni- or bilaterally.

These three parameters (BCR, CEP and cystometry) are strongly correlated with the clinical severity of the syndrome. The most predictive ones are the CEPs and BCR to vesical nerve stimulation and cystometry.

28-28-03 SEASONAL GUILLAIN-BARRE SYNDROME IN NORTH CHINA: A STUDY OF CLINICO-ELECTROPHYSIOLOGY IN 44 CASES

X.F. Tang and X.J. Zhang

Department of Neurology, PUMC Hospital, Chinese Academy of Medical Sciences, Beijing, 100730, China.

The clinical and magnetic stimulation motor evoked potentials (MEP) study was made in 44 patients in Shijiazhuang city from July to September, 1991. Age from 5 to 63 (mean 19.5) including 18 cases below 14 (mean 5.4) years old. Male 24 and female 20. MEP were tested on the 2nd to the 54th day after onset and were sequentially done 3 to 12 (mean 8) times. The latencies and amplitudes from C7, Erb’s point and elbow to hypotension minimal and L4 and popliteal fossa to tibialis anterior were measured. Subjects 70 patients for control. We found 35 cases (79.5%) with 50% to 93% prolonged latency more than 2 times or 2 sites in which 23 pts. with recovery of low amplitude within 6 weeks. Three (6.8%) with one prolonged latency (56 - 404%) and one with mild prolonged latency and very low amplitude which recovered to normal in 4 weeks, two with 30 - 49% prolonged latency and ongoing reduced amplitude in the 14th and 21st day after onset. Two with normal latency very much reduced amplitude, one with no response at all in 6 times measurement.

Three (6.8%) cases in our group, showed neurophysiological evidence of possibly predominant somatic changes.

28-28-04 THE ROLE OF SENSORY COMPLAINTS IN DIAGNOSING DIABETIC POLYNEUROPATHY

F.W. Bierchmann G.D. Valk P.A. Grootenhas and L.M. Buiter

Department of Neurology, Free University Hospital, Amsterdam, The Netherlands.

Sensory disturbances can be the first signs of diabetic polyneuropathy. These complaints may vary from sensory loss to spontaneous pain in the extremities. To determine the role of different sensory complaints in the diagnosis of diabetic polyneuropathy, 64 diabetic patients (37 insulin dependent and 31 non-insulin dependent) being consecutively referred because of suspected neuropathy were investigated. Their mean age ± SD was 51.7 ± 13.5 years and mean duration of diabetes 213 ± 112.5 years. Sensory complaints were quantified using a detailed questionnaire. The results were compared with the results of the clinical and neurophysiological examinations that were quantified with a previously described scoring system. In all patients both clinical and neurophysiological examination confirmed the diagnosis polyneuropathy. Only the scores of the clinical examination were significantly correlated with the scores of the sensory complaints (r=0.013, p<0.01). Using discriminant analysis a cluster of complaints about sensation alteration (numbness and paresthesias) could be divided from a cluster of complaints about pain (alpha coefficients 0.88 and 0.86 respectively). The scores of clinical and neurophysiological examinations were only significantly correlated with the cluster sensory alteration (r=0.38, p<0.002; r=0.37, p<0.02 respectively). These results indicate that complaints are independent of the complaints of numbness and paresthesias in hands and feet are more important in diagnosing diabetic polyneuropathy and in assessing the severity of the disease.

28-28-05 INTRAVENOUS IMMUNOGLOBULIN INFUSION IN MULTIFOCAL DEMYELINATING MOTOR NEUROPATHY

C.P. Tsai, Y.C. Ting, Z.A. Wu

Neurological Institute, Veterans General Hospital Taipei, Taiwan R.O.C.

We reported a case with multifocal demyelinating motor neuropathy (MMN) presenting as gradual development of asymmetrical weakness without sensory involvement. Electrophysiological studies showed mainly conduction block with normal or slightly slow nerve conduction velocity (NCV). CSF protein and serum protein electrophoresis were normal but serum IgM anti-GM ganglioside antibody were elevated. The patient had poor response to steroid, plasmapheresis and chemotherapy with cyclophosphamide, but significant improvements were noted after intravenous immunoglobulin infusion (IVIG). MMN is a potential treatable condition clinically mimicking a motor neuron disease and IVIG may be effective where treatment with steroid, plasmapheresis and cyclophosphamide has failed.

28-28-06 THE EFFECT OF BEDREST FOR ACUTE, SUBACUTE AND CHRONIC LUMBAR RADICULAR SYNDROME


Centraal Militair Hospital, Utrecht, The Netherlands.

We started the study December 1992 to investigate the effect of bedrest in patients with a radiculopathy caused by a proven disc rupture L4/L5 or L5/S1 by MRI-scan of the lumbar region. We compare 3 groups depending on the duration of symptoms: acute (within one month), subacute (between 1 and 3 months) and chronic (longer than 3 months). The bedrest is strictly and takes 10 days. Patients are admitted in hospital and they do not how the results as regards clinico-electrodiagnostic examination and a questionnaire filled in by the patient before and after the bedrest. Possible changes of the MRI-scan will be correlated with the findings of the physical examination and the patient questionnaire. We assume that patients with chronic complaints will have less benefit of bedrest therapy. The study will be completed before next September.