The role of sensory complaints in diagnosing diabetic polyneuropathy

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2-28-01 THE ROLE OF VIBRATORY AND SENSITIVE TESTS IN DIABETIC PERIPHERAL NEUROPATHY: A MULTICENTER STUDY ON 467 DIABETIC PATIENTS

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Specificity (SP), sensibility (SE) and diagnostic accuracy (AD) of biotesiometer (VPT), Diapson (IP) and Thermocross (TPT) were evaluated as regards clinico-elettrophysiological diagnosis (clinical evaluation of neuropathy's symptoms and inferior limbs orteo-tendon reflexes, measurement of motor conduction (VCM) and sensitive (VCS) speeds respectively to the external popliteal sciatic and the sural nerves). We studied 467 diabetic patients (coming from 6 national centres (PD, PG, MI, RM, FI, BO) aged between 51.3 ± 15 (M ± DS), 197 type 1 (D1) and 267 type 2 (D2), with a diabete duration of 14.6 ± 10 years and HaA1c of 8.20 ± 1.8%, not suffering from hepatosis, nefrosis, obliterative artheriopathy or other known causes of peripheral neuropathy and that were not following a specific therapy for the neuropathy. For the gold standard (presence of neuropathy) we considered the simoultaneous alteration of motor and sensitive conduction velocities in the two nerves. We obtained the following results:

Site	TPT (SE, SP, AD) %			VPT (SE, SP, AD) %			DP (SE, SP, AD) %		
Allux+	54	69	65	37	83	69	33	73	62
Malleolus	52	72	66	82	45	56	20	80	64

The VPT is connected with VOM, VCS, TF and TPT ($p < 0.001$). The TPT at the internal and esternal malleolus is connected with VPT, VCS and TF $p < 0.001$, with VOM $p < 0.02$. VPT-TPT, TF-related are connected with age and duration of the disease $p < 0.0001$; VOM is connected with age $p < 0.007$ but not with disease's duration, VCS is connected both with disease and duration's age $p < 0.007$.

2-28-02 ELECTROPHYSIOLOGICAL ASSESSMENT OF LOWER URINARY TRACT IN CAUDA/CONUS SYNDROME.

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To investigate the visceral and somatic nerves 15 patients with cauda-conus syndrome were studied by recording the bulbocavernosus reflex (BCR) and cerebral potentials (CEP) evoked by stimulation of visceral 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 pudendal nerve at glans level were abnormal in 14. BCR to pelvic and pudendal 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 also strongly correlated with the clinical severity of the syndrome. The most predictive ones are the CEPs and BCR to visceral nerve stimulation and cystometry.

2-28-03 SEASONAL GUILLAIN-BARRÉ SYNDROME IN NORTH CHINA: A STUDY OF CLINICO-ELECTROPHYSIOLOGY IN 44 CASES

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The clinical and magnetic stimulation motor evoked potenials (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 hypothenar muscle and L4 and popliteal fossa to anterior tibial muscle. Age matched 70 subjects for control. We found 35 cases (79.5%) with 50 to 396% 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 time 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 axonal changes.

2-28-04 THE ROLE OF SENSORY COMPLAINTS IN DIAGNOSING DIABETIC POLYNEUROPATHY.

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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, 68 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 ± 8.5 years and mean duration of diabetes 21.3 ± 11.2 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 ($r=0.31$, $p<0.01$). Using a factor analysis a cluster of complaints about sensory alteration (numbness and paraesthesias) 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 implicate that compared with complaints of pain,complaints of numbness and paraesthesias in hands and feet are more important in diagnosing diabetic polyneuropathy and in assessing the severity of the disease.

2-28-05 INTRAVENOUS IMMUNOGLOBULIN INFUSION IN MULTIFOCAL DEMYELINATING MOTOR NEUROPATHY

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We reported a case with multifocal demyelinating motor neuropathy (MMN) presentating as gradual development of asymmetric weakness without sensory involvement. Electrophysiological studies showed mainly conduction block with normal or slightly slow nerve conduction velocity (NCV). CSF protein and serum protein electrophresis were normal but serum IgM anti-GM1 ganglioside antibody were elevated. The patient had poor responses to steroid, plasmaphresis and chemotherapy with cyclophosphamide, but significant improvements were noted after intravenous immunoglobulin infusion (IVIG). MMN is a potential treatable condition clinically mimicing a motor neuron disease and IVIG may be effective where treatment with steroid, plasmaphresis and cyclophosphamide has failed.

2-28-06 **THE EFFECT OF BEDREST FOR ACUTE, SUBACUTE AND CHRONIC LUMBAR RADICULAR SYNDROME**

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We started the study December 1992 to investigate the effect of bedrest in patients with a radicularsyndrome 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 complaints:acute(less than 1 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.Each group contains 20 patients.After the bedrest (10 days) the MRI scan will be repeated and compared with the first MRI-scan. The effect of the bedrest will be measured by comparing the neurological physical examination and a questionnaire filled in by the patient before and after the bedrest.Possibel changes of the MRI-scan abnormalities 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.