Neurology

43. Role of Chlamydia pneumoniae Infection in Acute Ischemic Stroke

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Introduction: Several risk factors are associated with stroke. Studies have shown that acute and chronic infection (mainly respiratory infection) increases the risk of cerebral ischemia independent of other risk factors. Serological evidence of infection with Chlamydia pneumoniae has been shown to be associated with cardiovascular disease in several studies. Persistent infection is not uncommon after acute respiratory infection with C pneumoniae. Data on its association with ischemic stroke are limited. We sought to determine whether C pneumoniae infection is associated with ischemic stroke.

Aims and Objectives: To measure serum IgM, IgG and IgA antibody titers specific for C pneumoniae in patients of acute ischemic stroke and age-and sex-matched healthy controls and to determine whether serological evidence of infection with Chlamydia pneumoniae is associated with acute ischemic stroke.

Material and Methods: Forty patients ≥ 40 years of age with ischemic stroke presenting within 7 days of onset, and 40 age and sex matched healthy controls were studied. Subjects with previous history of ischemic stroke, TIA, hemorrhagic stroke, CAD, and obvious source of cardiac embolism were excluded. Apart from routine workup, serum titers of IgG, IgA, and IgM antibodies specific for C pneumoniae were measured by ELISA technique. Optical densities (OD obtained by the spectrophotometer reading) were used for calculation of the antibody index (sample OD/cutoff serum mean OD) x 10. Samples with indexes < 9 were considered negative and > 11 as positive. Values between 9 and 11 were considered equivocal and were retested. The present ELISA test detects antibody levels equivalent to 1/64 titer by microimmunofluorescence. Chi square test and unpaired t-test were used for statistical analysis.

Results: Forty cases and 40 control subjects were studied. Mean age of cases was 58.28 ± 11.58 years; 52.5% were males and 47.5% were women. Table 1 shows the results of serum C pneumoniae antibody testing.

Table 1:

<table>
<thead>
<tr>
<th>Elisa+</th>
<th>Case n=40</th>
<th>Controls n=40</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgM</td>
<td>7</td>
<td>6</td>
<td>0.762</td>
</tr>
<tr>
<td>IgM</td>
<td>1513</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>IgA</td>
<td>0</td>
<td>0</td>
<td>—</td>
</tr>
</tbody>
</table>

Elevated C pneumoniae IgG titers were significantly associated with ischemic stroke. IgA and IgM titers were not found to be significantly associated with stroke. Further, cases had significantly higher waist-hip ratio (WHR) with a mean of 0.897 ± 0.020 vs 0.962 ± 0.107 in controls (p = 0.006). The cases also had significantly higher mean serum uric acid of 5.310 ± 0.763 vs 4.123 ± 1.022 in the controls (p = 0.000).

Conclusion: Serological evidence of chronic infection with C pneumoniae is shown by elevated IgG titers is associated with acute ischemic stroke. Since our sample size is small, further prospective epidemiological studies of the effect of this infection on stroke risk are warranted.

45. Lipid Profile in Stroke Patient

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BRD Medical College, Gorakhpur (UP).

Associated of dyslipidemia as a risk factor in stroke is not as clear as in coronary heart disease. Sixty consecutive patients with stroke (42 males, 18 females) attending stroke clinic at the BRD Medical College, Gorakhpur having no lipid lowering therapy or secondary dyslipidemia were analysed for fasting lipid profile analysis. The number of patients with abnormal values were compared to those with normal values in relation to stroke patient as a whole, presence or absence of hypertension and diabetes and where ever possible on the pathological type of stroke. Highly significant alteration in LDL-cholesterol (LDL-C) non HDL cholesterol (non HDL-C) and serum triglycerides (TG) were observed in patient with stroke (p < 0.001). No significant alteration was noted in total cholesterol (TC) and HDL cholesterol (HDL-C). Low HDL-C values were more frequently observed in normotensive stroke patients. Non-HDL-C a marker for atherogenic activity was high in both ischemic and haemorrhagic strokes while a higher incidence of LDL-C was noted in ischemic strokes. Estimation of non-HDL-C and LDL-C seem to be of greater relevance in patients with stroke.

47. Clinical Study of Neurotuberculosis with Special Reference to Neuroimaging

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Aim of the Study: To study the clinical and demographic profile of neurotuberculous patients and usefulness of imaging in its diagnosis in relation to HIV status.

Material and Methods: Study of 50 cases of neurotuberculosis including 30 cases of HIV seronegative and 20 cases of HIV seropositive.

Results: Total 50 cases of CNS tuberculosis: Grp A (n=30) HIV seronegative. Grp B (n=20) : HIV seropositive. The most common presentation in grp A in descending order is headache in 70%, fever in 56.6%, vomiting in 56.6%, altered mental status in 63.3%, focal neurological deficit in 20% and convulsion in 10%. The presentation in grp B in descending order is headache in 80%, fever in 70%, vomiting in 35%, altered mental status in 60%, focal neurological deficit in 25% and convulsion in 10%. Findings of CT brain in descending order are in grp A hydrocephalus in 50%, contrast enhancement of basal cisterns in 20%, cerebral infarct in...
13% and parenchymal enhancement in 10% cases while 10% of patients had normal CT scan and 6.6% of patients had tuberculoma. Similarly in grp B hydrocephalus in 40%, contrast enhancement of basal cisterns in 15%, cerebral infarct in 30%, parenchymal enhancement in 5%, tuberculous abscess in 15% and tuberculoma in 25%. MRI was done in 3 patients who had normal CT scan brain, out of these, 2 patients had tuberculoma and 1 had spinal meningeal tuberculosis.

Conclusion: Irrespective of HIV status, clinical presentation of neurotuberculosis remains the same while in neuroimaging tuberculoma and tuberculous abscess are more common in HIV seropositive patients.

48. Acute Cerebellar Disorders - A Clinical Study

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BJ Medical College, Pune.

Acute cerebellar disorders are defined as any patients with cerebellar ataxia of acute onset evolving over less than 3 weeks.

72 consecutive cases of acute cerebellar disorders over a period of one and half years were documented as studied. Patient in whom posterior column signs were very prominent making it difficult to differentiate from sensory ataxia were excluded.

Detailed clinical examination and investigations were carried out. Breakup of patients according to etiology was as follows:

Drugs and toxins - 43.06% (Phenytoin - 90%)
Cerebrovascular accidents - 30.56% (Infarction 68%, hemorrhage - 27%)
Related to infections - 19.44%, (Enteric cerebellitis 40%, abscess 26%)
Demyelinating disease - 2.78%, (Meningoencephalitis - all)
Raised intracranial tension - 4.175 (BIH - 25%)
Change in brand of phenytoin produce cerebellar ataxia at therapeutic level.
Outcome was as follows. Complete recovery 62%, partial recovery 20% death - 8%, status quo - 4%.
Infections and toxic cause had bilateral signs. CVA had unilateral signs. Infections, toxins, cerebellar abscesses and cerebellar hemorrhage recovered with prompt intervention.

49. CT Evaluation of 180 Consecutive Patients with CVA

KK Samal, HS Dash, S Panda, M Srinivas, BK Bastia, SR Patnaik, CD Majhi, M Sharma
MKCG Medical College, Berhampur, Orissa.

CT analysis of 180 consecutive patients with CVA was carried out. The age ranged from 15 to 90 years and 132 were males and 48 were females (Male : Female = 2.75:1). Ischaemic stroke was observed in 133 cases (73.9%, Male 95, Female 38) and haemorrhagic stroke in 47 cases (26.1%, Male 37, Female 10 and one case had subarachnoid haemorrhage). Below 40 years of age, the number of stroke patients were 128 (10%, Male 11, Female 7; ischemic stroke 17, Haemorrhage 1), above 65 years number of cases were 84 (46.7%, Male 60, Female 24, Ischaemic stroke 49, Haemorrhagic 35) and in the age group of 40-65 years, the cases were 78 (43.3%, Male 57, Female 21, Ischaemic 67, Haemorrhagic 11). Below 60 years of age only 5 cases had haemorrhagic stroke.

The arterial distribution of the ischaemic stroke cases were middle cerebral artery (MCA) 113 (85%), posterior cerebral artery (PCA) 16 (12%) and anterior cerebral artery (ACA) 4 (3%) while in haemorrhagic stroke the cases were MCA 36 (76.6%), PCA 10 (21.3%) and ACA 1 (2.1%). Distribution of the total number of patients with CVA : MCA 149 (82.8%), PCA 26 (14.4%) and ACA 5 (2.8%).

Present study shows that incidence of haemorrhagic stroke was 26.1%, MCA territory was the commonest zone of stroke (82.8%) and ACA territory was least involved (2.8%). Ischaemic stroke was common below 60 years of age while haemorrhagic stroke was common (74.5%) after 65 years of age and below 40 years of age usually all were ischaemic.

55. Young Stroke - A Prospective Study

U Narayan, N Sharma
Advanced Neuro-Diagnostic Centre, Patna.

Stroke is rapidly developing clinical symptoms and signs of focal and at times, global loss of cerebral function with symptoms lasting more than 24 hrs., or leading to death with no apparent cause other than that of vascular origin. Stroke usually occur in elderly patients, having direct relationship with age - higher incidence in old age. Incidence of Young Stroke is comparatively less and its aetiology is being different that that occurring in old one.

A study was conducted to Young Stroke (Age < 40 years) from July 2000 to May 2004 in Advanced Neuro-diagnostic Centre, Patna a complete Neurological Institute of Bihar. Total number of Young patients suffering from stroke were 57. All patients were investigated with Neuro-imaging and appropriate investigation. Infarction was observed in 39 while haemorrhage in 18; Infarction was present in valvular heart lesion (13), Bacterial endocarditis (2), Plasmodium malaria (2), Myocardial Infarction (1), Tuberculous meningitis (6), Puerperium (3), APLA syndrome (2), Drug abuse (3), Connective tissue disorders (2), Migraine (2). We could not find any cause in 3 patients. Bleeding disorders (4), pregnancy/puerperium (3), AVM (4), Renal failure (2), Hypertension (1) were observed in cerebral hemorrhage group four. Cases had no established aetiological causes.

The patients presented with focal neurological deficit like aphasia, monoplegia, hemiplegia with hemi-anesthesia diminished vision, diminished consciousness etc. Cases were managed and rehabilitated accordingly.

Thus, it is being concluded that stroke occur in younger persons also and its aetiological causes varies from that of elderly one.

65. An Observation on Neurocysticercosis

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VSS Medical College, Burla.

Aims and Objectives: The study has been undertaken to identify the incidence, clinical presentation and response to treatment of neurocysticercosis (NC) in western Orissa.

Material and Methods: 150 patients presenting with convulsion were investigated for NC with CT scan and ELISA and confirmed cases of NC were given albendazole, steroid and anticonvulsant and were followed up at regular interval for 3 months.

Result: Out of 150 patients with convulsion 40 (26.6%) were diagnosed to have NC. Out of 40 patients of NC, 8 (20%) were vegetarian and 32 (80%) were non-vegetarian including 5 pork eaters. 24 (60%) cases had presented with focal convulsion. In 32 (80%) cases CT showed single ring enhancing lesion (SSEL) and 8 (20%) showed multiple enhancing and non-enhancing lesions.

The common site of lesion is in parenchyma. In 30 (75%) cases the lesion were found in the parietal lobe, ELISA for IgG NC was found 32 (80%) and 24 (60%) cases in CSF and serum respectively. Repeat CT scan 3 month after treatment with albendazole (15 mg/kg/day for 28 days) steroid and anticonvulsant, showed complete resolution in 36 (90%) cases. Remaining 4 (10%) cases those not resolved were calcified lesion.
Conclusion: NC is a common cause of late onset focal convulsion in this part of the country. As very few 5 (12.5%) cases consumed pork, transmission of NC through raw vegetable is a strong possibility, which may be due to contamination through the bio-fertilizer commonly used in this part of the country.

66. Frontal Lobe Involvement: A Study of 21 Cases

P. Panchal, N. Lankeshwar, S. Nabar, S. Pednekar
TN Medical College and BYL Nair Ch. Hospital, Mumbai.

Aims: (i) Study of different patterns of frontal lobe involvement as per Cumming’s classification (the highlights of this classification are 3 distinct syndromes namely orbitofrontal, medial frontal and frontal convexity syndromes (ii) Study of the course and recovery and relate it to causative pathology and treatment.

Methods: Twenty one patients with frank clinical frontal lobe signs or with frontal lobe lesion revealed by CT scan were studied. Patients with HIV positivity toxic and metabolic abnormalities, head injury and lobectomy were excluded. All underwent detailed neurological examination, CT scan, relevant treatment and follow up for 3 months.

Results: On analysis of 21 patients; 8 had frontoconvexity syndrome, 13 had frontomedial syndrome and none had frontobital syndrome. Seizure was the commonest (≥12) clinical presentation. Neurocysticercosis (≥10) and vascular episode (≥10) were the main etiological factors. Out of 13 frontomedial cases bladder involvement was observed in 8. In lowest MMS score group (≥7) vascular episode appeared to be predominant (≥6). In moderate to higher score (≥14), 10 had neurocysticercosis. Patients with low MMS score had poor prognosis.

Conclusion: Infective pathology appears to be associated with good MMS score and better prognosis whereas vascular pathology appears to be linked with low MMS score and poorer prognosis. Hence, complete neurological examination and early CT scan play a major role in improving the prognosis and limiting the disabilities of potentially curable disease.

67. A Study of Lipid Profile and Carotid Doppler in Acute Ischaemic Stroke

SH Kini, M Prashanth, MY Nadkar, NE Bojes
TN Medical College and BYL Nair Hospital, Mumbai 400 008.

Aims: 1. To correlate lipid profile and site and extent of carotid atherosclerotic plaque.
2. To correlate carotid atherosclerosis and brain imaging findings, and
3. To determine the role of carotid Doppler in acute ischaemic stroke.

Methodology: Seventy five patients admitted in a tertiary care hospital over a period of 1.5 years, aged more than 40 years, presenting with an acute stroke, in whom the CT/MRI of the brain was either normal or showing an infarct, were included. After clinical evaluation these patients underwent CT/MRI brain within 24 hrs of admission, total cholesterol, HDL cholesterol, triglycerides, LDL cholesterol estimation, haemogram, fasting blood sugar, renal and liver function tests and colour doppler of carotid arteries. Lipid profile was estimated from 30 young adults as controls.

Results: 1. Serum cholesterol triglycerides and LDL were significantly higher in patients of acute ischaemic stroke than healthy controls. HDL cholesterol was not significantly different. 2. The lipid profile was not significantly different in a. Those with and without plaques, b. with different plaque dimension and c. with lacunar and non-lacunar infarcts. 3. Risk factors of atherosclerosis and presence of carotid plaque did not significantly correlate. 4. Carotid Doppler is significantly more sensitive than clinical examination for detecting abnormal carotids. 5. Plaque presence did not significantly influence the outcome of stroke.

Conclusions: Lipid profile and carotid do not have a significant role in the evaluation of acute ischaemic stroke.

72. Stroke - Risk Factor Profile in Patients Above 40 years of Age

Jagdish, M Kapoor, SB Siwach, H Singh, P Sharma, T Madan
Pt. BD Sharma Post Graduate Institute of Medical Sciences, Rohtak (Haryana) India.

Stroke is one of the very common causes of morbidity and mortality especially in elderly people. Apart from identification of the nature of basic lesion - haemorrhage, thrombosis or embolisation, efforts have been directed to the study of risk factors so that an effort may be made towards primary prevention, which promises to be easy and cheap. The present study was planned to study the risk factors in patients of stroke above the age of 40 years. A total of 50 patients with clinical evidence of stroke were included. Clinical profile and specific investigations like CT Scan head, lipid profile, blood sugar, serum homocysteine levels, body mass index (BMI), waist hip ratio, 2D echocardiogram, EKG and x-ray chest were done in all of them. Fifty normal subjects were taken as controls incorporating all the investigations and clinical profile.

Observations are as under:-

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>61.28 ± 12.47</td>
<td>63.12 ± 10.51</td>
</tr>
<tr>
<td>Stroke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombus</td>
<td>66%</td>
<td>Nil</td>
</tr>
<tr>
<td>IC Bleed</td>
<td>34%</td>
<td>Nil</td>
</tr>
<tr>
<td>Smoking</td>
<td>51%</td>
<td>56%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>30%</td>
<td>Nil</td>
</tr>
<tr>
<td>Hypertension</td>
<td>76%</td>
<td>8%</td>
</tr>
<tr>
<td>C-Reactive Proteins</td>
<td>52%</td>
<td>12%</td>
</tr>
<tr>
<td>Hyperhomocysteinaemia</td>
<td>90%</td>
<td>48%</td>
</tr>
<tr>
<td>Hypercholesterolaemia</td>
<td>86%</td>
<td>46%</td>
</tr>
<tr>
<td>Hypertriglyceridaemia</td>
<td>28%</td>
<td>24%</td>
</tr>
</tbody>
</table>

It is apparent that apart from the established risk factors like hypertension, diabetes mellitus and Hypercholesterolaemia, there is significant elevation of CRP and homocysteine levels. Incorporation of exercise programs, control of hypertension and diabetes mellitus and supplementation of diet with folic acid, vitamins B12 and control of inflammation may be very useful in primary prevention of stroke. There is no significant abnormality in BMI, waist hip ratio and echocardiographic parameters.

82. Stroke, Its Present Trend - A Retrospective Study

B Jayaprakash, N Kumar, S Kadakol, W Azar, L Arun
Vijaynagar Institute of Medical Sciences, Bellary.

Objectives: 1. Study the clinical profile, CT features and mortality in patients with stroke.

Methodology: A retrospective study of 100 cases of stroke at VIMS, Bellary were studied. Cases below 14 years and CT scan brain done before 24 hrs of manifestation were excluded from the study. Age of the patients, relevant clinical features and the
underlying risk factors were noted. Detailed CT findings of all patients were recorded. These findings were studied to know the mortality.

Results: Males with stroke were predominant (63%). Stroke in the age group 40-65 yrs constituted 58% of the cases, stroke in young (less than 40 yrs) were 23%. The predominant underlying risk factor was hypertension (32%). CT features included infarcts (57%) (majority were in middle cerebral artery territory), haemorrhage (16%), haemorrhage into infarct (5%), haemorrhagic infarct (12%), sub-archnoid haemorrhage (3%) and others (7%). Total mortality was 25% and of these 42.86% were due to bleed, infarct 24.56% and least in CVT about 16.67%.

Conclusion: Most of the cases were elderly, males with an underlying risk factor of hypertension. Mortality was highest in haemorrhagic group.

85. Diagnostic Significance of Siriraj Stroke Score and Its Correlation with CT Scan in Patients of Stroke

MM Gupta, JK Dahra, AK Kapila, RS Gupta, RV Kumar, N Gupta
Govt. Medical College, Patiala (Pb.)

One hundred consecutive patients of stroke admitted in Rajindra Hospital Patiala were studied. The mean age of patients was 63.51 ± 13.82 years. Males were 48% and females 52%. Most common presenting feature was hemiparesis, right sided 52% and left 40%. In 8% there was alone aphasia, supranuclear 7th nerve palsy or coma. Associated features were headache in 20%, altered sensorium 58%, vomiting 44%, seizures 12%, supranuclear 7th nerve palsy in 65%, aphasia 34% and neck rigidity in 6% cases. 29% were normotensive and 71% were hypertensive. Cerebral infarction was present in 55% and haemorrhage accounted for 45% on CT scan. Out of 37 cases predicted to be hemorrhagic stroke by Siriraj score 31 were confirmed on CT but 6 were having ischaemic stroke. And out 43 cases predicted to be ischaemic stroke 39 were confirmed on CT but 4 were hemorrhagic stroke. In twenty patients with equivocal result on Siriraj score 10 were ischaemic stroke and 10 were hemorrhagic stroke on CT. So in cases of ischaemic stroke Siriraj score has sensitivity of 86.67%, specificity 88.57% and positive predictive value of 90.70%, while in hemorrhagic stroke it has sensitivity of 88.57%, specificity of 86.67% and positive predictive value of 83.78%. To conclude in hemorrhagic stroke it has sensitivity of 88.57%, specificity of 88.57% and positive predictive value of 90.70%, while in cases of ischaemic stroke Siriraj score has sensitivity of 86.67% and positive predictive value of 83.78%. To conclude in hemorrhagic stroke it has sensitivity of 88.57%, specificity of 88.57% and positive predictive value of 90.70%, while in cases of ischaemic stroke Siriraj score has sensitivity of 86.67% and positive predictive value of 83.78%.

Siriraj Stroke Score = (2.5 x level of consciousness) + (2 x Vomiting) + (2 x Headache) + (0.1 x DBP) - (3 x Atheroma) -12.

A Score above +1 indicates cerebral hemorrhage while a score below -1 indicates infarction. The stroke between +1 to -1 represent an equivocal result.

Results: There were 80 males and 44 females. 23% cases had cerebral hemorrhage and 77% had cerebral infarction on CT Scan. The sensitivity, specificity and positive predictive value for cerebral infarction were 55.78%, 93.10%, 96.36% respectively. The figures for cerebral hemorrhage were 58.62%, 86.31% and 56.66%. Overall predictive value of SSS is 56.45%.

Conclusion: This study showed low sensitivity and specificity of SSS in population. Our results indicate that SSS is a simple method but not very accurate in distinguishing type of stroke. At present CT scan/MRI and not history and clinical criteria can accurately identify the type of stroke.

86. A Validation Study of Siriraj Stroke Score

Omprakash, R Singh, LS Bichile
Seth GS Medical College and KEM Hospital, Parel, Mumbai.

Objective: To validate and assess the sensitivity and specificity of the Siriraj Stroke Score (SSS) in differentiating between hemorrhagic and ischemic strokes in patients admitted to the Department of Medicine, KEM Hospital.

Material and Methods: 124 consecutive patients with acute stroke syndrome were studied from September 2002 - December 2003. Patients were diagnosed by using WHO’s criteria for the acute stroke syndrome. Detailed clinical and neurological examination was performed. CBC, routine biochemistry and CT scan brain were done within 72 hours of onset. Patients with features suggestive of subarachnoid hemorrhage were excluded from the study. Using quantitative assessment of clinical variables, Siriraj Stroke Score (SSS) was calculated. To avoid bias, the clinical data were collected prior to CT scan.

131. Study of Clinical and Temporal Profile of Lacunar Infarcts

A Vij, AK Kapila, HK Madan, SG Sachdeva, C Vij, S Singh, Ruchika Vij, P Baghi
GMC Patiala.

A study was conducted on 30 patients (18 males, 12 female) admitted in Rajindra Hospital, Patiala. The patients included in the study presented with sudden onset of focal neurological deficit and their CT scan when done, showed lacunar infarct. Patients were divided into 4 main lacunar syndromes - pure motor stroke (63.33% patients), pure sensory stroke (3.33%), sensorimotor stroke (23.33%) and ataxic hemiparesis (10%). Various risk factors like age, sex, diabetes, hypertension, smoking, hypercholesterolemia, alcohol intake, ischaemic heart disease, history of TIA’s were looked for. Temporal profile of every patient was followed from admission up to 4 weeks and the outcome, whether the recovery or death was noted.

Study showed that lacunar infarcts were more common in males (1.5:1) with pure motor stroke being the most common presentation. Hypercholesterolemia (66.66%) was the most common risk factor followed by long standing stage-II hypertension (63.33%), chronic alcoholism (30%), diabetes (26.66%) and smoking (20%). History of TIA’s was present in 26.66% cases. CT scan showed that basal ganglia (53.33% patients) and periventricular sites (53.33%) were the most commonly involved sites followed by external capsule (36.66%) and internal capsule (16.66%). At 4 weeks, recovery was upto 25% in 4 patients, 50% in 7 patients, 75% in 11 patients and complete recovery in 7 patients. 1 patient died due to cardiac problem.

It was concluded that hypercholesteremia, hypertension, alcohol, diabetes, smoking are strong risk factors for lacunar stroke which if controlled can decrease the risk of stroke.

132. A Study of Cases of Hyponatremic Encephalopathy

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SCB Medical College, Cuttack 753007.

It is our observation that the number of cases of hyponatremic encephalopathy (HE) admitted to hospital has increased recently. Over a period of two years we observed 18 cases of hyponatremic encephalopathy being admitted for treatment. The age ranged from 55 years to 82 years and majority were males (16/18). The precipitating factors were consumption of diuretics (11 cases), dehydration due to diarrhea and vomiting (4 cases), in 3 cases no definite cause was found out. The diuretics used were Indapamide (5), Thiazide-4, and Metolazone (2). Hypokalemia coexisted in
14 out of 18 cases. The range of sodium in the serum was 105-122 m Mol/l. These cases were treated with oral extra sodium and potassium. Nobody received hypertonic saline. The level of consciousness varied from GCS 5 to 11. All recovered. Recovery occurred within a week. None had any residual deficit. All cases occurred between April to July. We conclude that elderly patients on diuretic therapy in a tropical country are more prone to suffer from hyponatremia, so they should be allowed to take more salt in summer season. The rise in the number of cases of hyponatremia recently may be due to more prescription of diuretics following JNC VII report.

134. A Study of Plasma Fibrinogen Levels in Stroke - Ischaemic and Haemorrhagic

AR Kumar, Satish, A Kumar, V Raghawa, M Joshi, K Shankar Gandhi Medical College, Secunderabad.

Aim of the Study : Fibrinogen levels were estimated retrospectively in ischaemic and haemorrhagic stroke patients with the aim to find out a positive correlation, to highlight the influence of age and sex on fibrinogen levels in patients. With stroke and also to establish the coexistence of raised fibrinogen levels with other possible risk factors for stroke.

Material and Methods : 40 patients were selected as study group, which comprised of 20 patients (10 males and 10 females) with ischemic stroke and 20 patients (10 males and 10 females) with haemorrhagic stroke (after taking exclusion criteria into consideration) along with 40 age and sex matched controls. Blood sample for fibrinogen was taken within 24 hrs of admission and repeated after 15 days for all subjects and controls using Fibro-quant kit.

Results and Observations : In patients with Ischaemic stroke, high plasma fibrinogen levels (> 400 mg/dl) were recorded in 65% patients, males (80%) and females (50%). High plasma fibrinogen levels were seen in 83.3% with age > 60 yrs, and 37.5% with age 45-60 yrs. Elevated levels were noted in 68.75% with Hypertension; 100% with Smoking; 75% with Diabetes mellitus, 60% with Hypercholesterolemia and 68.75% with high LDL ch.

In patients with Haemorrhagic stroke, high plasma fibrinogen levels (> 400 mg/dl) were recorded in 50% patients, males (70%) and females (30%). High plasma fibrinogen levels were seen in 66.6% with age > 60 yrs. And 25% with age 45-60 yrs. Elevated fibrinogen levels were noted in 50% with hypertension; 100% with Smoking; 66.6% with Diabetes mellitus, 72.7% with Hypercholesterolemia and 61.5% with high LDL cholesterol.

Conclusions : The plasma fibrinogen levels were significantly elevated in pts. with ischemic as well as haemorrhagic strokes (more so in ischaemic stroke pts.), characteristically increasing with age. There is a preferential increase in males compared to females in both ischaemic and haemorrhagic stroke groups. Elevated fibrinogen levels were seen in association with Hypertension, Smoking (strong correlation), Diabetes, Elevated Total Cholesterol and High LDL Cholesterol in both stroke groups.

Hyperfibrinogenemia can be considered as an independent risk factor for ischaemic as well as haemorrhagic stroke as some patients in both groups had no conventional risk factors but had elevated plasma fibrinogen levels. Also, plasma fibrinogen levels were significantly raised even 15 days after stroke indicating that it probably acts as a prognostic marker for future recurrences.

Aim : To compare the short term outcome of treatment with aspirin against heparin and aspirin in incomplete stroke.

Material and Methods : Patients with power more than grade 2/5 on admission in whom ischaemic stroke was confirmed by CT scan were enrolled. TIA’s, venous infarcts and patients below 45 years were excluded. Treatment with aspirin alone or heparin with aspirin at the discretion of the treating physician was started within 6 hours of admission. A detailed medical history, risk factors evaluation and a thorough clinical examination was carried out. Mandatory investigations included haemogram, serum biochemistry and CT scan. Patients were monitored every 48 hours using the National institute of health stroke scale (NIHSS) and Barthel’s index of activity of daily (ADL) up to day 10.

Difference in treatment outcome was not significant. Mortality was increased in heparin and aspirin group.

Conclusion : Addition of heparin does not improve the short term outcome in patients with incomplete stroke.

671. Clinical Profile of Progressive Multifocal Leucoencephalopathy

Priya Patil, M Patnaik, Vidya Nagar, A Aklujkar, D Gore, Alka Deshpande

Grant Medical College and Sir JJ Group of Hospital, Mumbai.

PML is an AIDS defining illness reported in very advanced state of immunodeficiency, caused by HIV disease. It is on Opportunistic infection due to JC virus. The infection results into extensive white matter demyelination without inflammatory changes. The insidious onset of neurological deficit, its progression with varied manifestations depending on the distribution of structural lesions always pose a diagnostic dilemma in HIV disease. Herewith we present 15 cases of PML with diverse neurological presentations.

Of the 15 cases; 30% presented with visual loss; 60% had dementia on presentation; there were focal neurodeficits in the form of monoparesis or hemiparesis in 60% patients and cerebellar ataxia in 70% of the patients. Some patients had combinations of the above neurodeficits. The CD4 counts ranged between 50 to 150. The average survival of these patients was more then 2 months even without ART and survival improved with ART. Some cases presented with PML as the first opportunistic infections and then detected to be HIV positive.

In our country no laboratory is having the facility to detect JC virus. However the diagnosis can be made on the basis of MRI scan, with gadolinium contrast showing diffuse white matter disease not enhancing on gadolinium. There is no specific treatment HAART prolongs the survival time.
Siriraj Stroke Score revealed hemorrhage in 7 out of 9 (78%) cases, and cerebral infarction in 31 out of 41 (76%) cases, with sensitivity of 75% for cerebral haemorrhage and 91.2% for cerebral infarction. Overall predictive accuracy was found to be 90.5%.

SSS system is especially useful in situations where CT scan is not available but as far as specific therapy of ischaemic stroke (thrombolytic therapy) is concerned and where CT scan is available, CT remains the gold standard for diagnosis of type of stroke.

*Adjudged Best Papers and got an award of Rs. 1000/- each from Chairman Scientific Committee, Diamond APICON 2005.