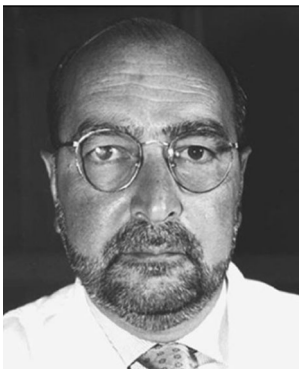
Neurological Sciences (2019) 40:437–439
https://doi.org/10.1007/s10072-019-03755-0

HIGHLIGHTS

Highlights of the Issue 3, 2019

Published online: 27 February 2019



Prof. Antonio Federico

REVIEW ARTICLE

Red Flags for early referral of people with symptoms suggestive of narcolepsy: a report from a national multidisciplinary panel
L. Vignatelli, E. Antelmi, I. Ceretelli, M. Bellini, C. Carta, P. Cortelli, L. Ferini-Strambi, R. Ferri, R. Guerrini, F. Ingravallo, V. Marchiani, F. Mari, G. Pieroni, F. Pizza, M. C. Verga, E. Verrillo, D. Taruscio, Giuseppe Plazzi

Narcolepsy is a lifelong disease, manifesting with excessive daytime sleepiness and cataplexy, arising between childhood and young adulthood. The diagnosis is typically made after a long delay that burdens the disease severity. The aim of the project, promoted by the Associazione Italiana Narcolettici e Ipersonni" is to develop Red Flags to detect symptoms for early referral, targeting non-sleep medicine specialists, general practitioners, and pediatricians.

A multidisciplinary panel, including patients, public institutions, and representatives of national scientific societies of specialties possibly involved in the diagnostic process of suspected narcolepsy, was convened. The project was accomplished in three phases. Phase 1: Sleep experts shaped clinical pictures of narcolepsy in pediatric and adult patients. On the basis of these pictures, Red Flags were drafted. Phase 2: Representatives of the scientific societies and patients filled in a form to identify barriers to the diagnosis of narcolepsy. Phase 3: The panel produced suggestions for the implementation of Red Flags.

ORIGINAL ARTICLES

Evaluation of dual pathology among drug-resistant epileptic patients with hippocampal sclerosis
Jafar Mehvari Habibabadi, Shervin Badihian, Nasim Tabrizi, Navid Manouchehri, Mohammad Zare, Reza Basiratnia, Majid Barekatain, Houshang Moein, Amirali Mehvari Habibabadi, Payam Moein, Peyman Gookizadeh

Dual pathology (DP) is defined as simultaneous presence of hippocampal sclerosis (HS) and any other pathology in the brain. Since this is a less probed concept, we aimed to evaluate the frequency and characteristics of DP among drug-resistant epileptic patients with HS.

This is a cross-sectional study conducted during 2007–2016 in Kashani Comprehensive Epilepsy Center, Isfahan, Iran. Patients with diagnosis of drug-resistant epilepsy and HS were enrolled in the study, and demographic data, seizure semiology, EEG findings, and MRI findings were collected. We compared these variables between three groups of DP, unilateral HS, and bilateral HS.

Of the 200 enrolled cases, 29 patients (14.5%) had DP and 21 patients (10.5%) had bilateral HS; the remaining patients had unilateral HS. The average age of patients with DP was 30.03, and 65.5% of them were male. Patients with DP had more EEG discharges from regional and multi-focal sites compared to unilateral HS (P value <0.001). Also, complex partial seizure (CPS) was more commonly presented in patients with unilateral HS (96.8%). Comparison of disease characteristics between DP and bilateral HS showed no difference in most categories ($P > 0.05$).

The AA found DP among 14.5%of our drug-resistant epileptic patients with HS. DP patientsmostly presented with CPS and had high proportion of ictal and interictal EEG discharges from regional and multi-focal areas. Gliosis and focal cortical dysplasia were the most common pathologies among

DP patients. Patients with DP showed a similar behavior to bilateral HS in many features.

Heterogeneous brain FDG-PET metabolic patterns in patients with C9orf72 mutation

Veronica Castelnovo, Silvia Paola Caminiti, Nilo Riva, Giuseppe Magnani, Vincenzo Silani, Daniela Perani

The hexanucleotide repeat expansion in C9orf72 is an associated genetic cause in amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD). In the BALS/FTD^ spectrum prevails clinical heterogeneity and an in vivo knowledge of the underling brain dysfunction in patients carrying C9orf72 mutation remain limited and only described at group level. The study aimed to assess the brain metabolic alterations characterizing patients with C9orf72 mutation using FDG-PET in single individuals.

The AA applied a validated statistical parametric mapping (SPM) voxel-based procedure for FDG-PET data to obtain maps of brain relative hypometabolism and hypermetabolism at single-subject level in six FTD/ALS patients carrying the C9orf72mutation.

Clinical diagnoses classified the patients as right semantic variant of frontotemporal dementia (one case, C9svFTD), behavioral variant of frontotemporal dementia (two cases, C9bvFTD), and bulbar amyotrophic lateral sclerosis (three cases, C9bALS). The FDG-PET SPM revealed a prevalent frontal hypometabolism in C9bvFTD cases, and right temporal polar and lateral involvement in C9svFTD, consistent with the clinical diagnosis. There was a quite comparable occipital and cerebellar hypermetabolism in these cases. The three C9bALS patients showed variable patterns of hypo- and hypermetabolism.

The present work is the first in vivo FDG-PETstudy showing the heterogeneous patterns of brain regional hypo- and hypermetabolism in single patients sharing C9orf72 mutation. Brain hypometabolism was consistent with the clinical phenotypes, supporting the diagnostic importance of neuroimaging functional biomarkers to capture at single-subject level specific brain dysfunction.

Cortical degeneration in chronic traumatic encephalopathy and Alzheimer's disease neuropathologic change

Richard A. Armstrong, Ann C. McKee2,3,4 & Thor D. Stein4,5 & Victor E. Alvarez3,5 & Nigel J. Cairns6

An observational study to compare the laminar distributions in frontal and temporal cortex of the tau-immunoreactive pathologies in chronic traumatic encephalopathy (CTE) and Alzheimer's disease neuropathologic change (ADNC).

Post-mortem material of (1) four cases of CTE without ADNC, (2) seven cases of CTE with ADNC (CTE/ADNC), and (3) seven cases of ADNC alone.

In CTE and CTE/ADNC, neurofibrillary tangles (NFT), neuropil threads (NT), and dot-like grains (DLG) were distributed either in upper cortex or across all layers. Low densities of astrocytic tangles (AT) and abnormally enlarged neurons (EN) were not localized to any specific layer. Surviving neurons exhibited peaks of density in both upper and lower cortex, and vacuole density was greatest in superficial layers. In ADNC, neuritic plaques (NP) were more frequent, AT rare, NFT and NTwere more widely distributed, NT affected lower layers more frequently, and surviving neurons were less frequently bimodal than in CTE and CTE/ADNC.

Tau pathology in CTE and CTE/ADNC consistently affected the upper cortex but was more widely distributed in ADNC. The presence of CTE may encourage the development of ADNC pathology later in the course of the disease.

Imaging features (CT, MRI, MRS, and PET/CT) of primary central nervous system lymphoma in immunocompetent patients

Gang Cheng, Jianning Zhang

Because of the low incidence of primary central nervous system lymphoma (PCNSL) in non-HIV individuals and because of the lack of specific clinical manifestations and auxiliary examinations, the disease is easily missed or misdiagnosed.

To analyze the imaging features of PCNSL in non-HIV patients.

This was a retrospective study of patients with PCNSL treated between January 2001 and December 2011 at the Naval General Hospital (Beijing, China). All included patients were pathologically diagnosed with PCNSL. Specimens were obtained by stereotactic biopsy and diagnosed by pathological examination. Serological panel had to be negative for HIV.

Out of the 118 patients, 73 (61.9%) were male and 45 (38.1%) were female. Median age was 54 (range 11–83) years. All patients had B cell lymphoma. The lesions showed slightly hyperintense shadows on computed tomography (CT) images, and mostly hyperintense T1 and iso- or hyperintense T2 signals on magnetic resonance imaging (MRI). Most lesions showed patchy enhancement after enhanced scanning, and some had the characteristic "Butterfly sign" on enhanced MRI. The magnetic resonance spectroscopy of PCNSL manifested as increased Cho peak, moderately decreased NAA peak, and slightly decreased Cr peak. Positron emission computed tomography indicated high metabolism of 18F-FDG in PCNSL lesions.

MRI is important in the diagnosis of PCNSL. Understanding the imaging features of PCNSL will help improve its diagnosis in clinics.

GEN-O-MA project: an Italian network studying clinical course and pathogenic pathways of moyamoya disease—study protocol and preliminary results

Anna Bersano, Gloria Bedini, Sara Nava, Francesco Acerbi, Davide Rossi Sebastiano, Simona Binelli, Silvana Franceschetti, Giuseppe Faragò, Marina Grisoli, Andrea Gioppo, Paolo Ferroli, Maria Grazia Bruzzone, Daria Riva, Elisa Ciceri, Chiara Pantaleoni, Veronica Saletti, Silvia Esposito, Nardo Nardocci, Federica Zibordi, Luigi Caputi, Stefania Bianchi Marzoli, Maria Luisa Zedde, Marco Pavanello, Alessandro Raso, Valeria Capra, Leonardo Pantoni, Cristina Sarti, Alessandro Pezzini, Filomena Caria, Maria Luisa Dell' Acqua, Andrea Zini, Claudio Baracchini, Filippo Farina, Sandro Sanguigni, Maria Luisa De Lodovici, Giorgio Bono, Fioravanti Capone, Vincenzo Di Lazzaro, Silvia Lanfranconi20 & Massimiliano Toscano21 & Vittorio Di Piero21 & Simona Sacco22 & Antonio Carolei, Danilo Toni, Maurizio Paciaroni, Valeria Caso, Patrizia Perrone, Maria Vittoria Calloni, Alfredo Romani, Marco Cenzato, Alessia Fratianni, Emilio Ciusani, Paolo Prontera, Elisabeth Tournier Lasserve, Kinga Blecharz, Peter Vajkoczy, Eugenio Agostino Parati, on behalf of GEN-O-MA study group

GENetics of mOyaMoyA (GEN-O-MA) project is a multicenter observational study implemented in Italy aimed at creating a network of centers involved in moyamoya angiopathy (MA) care and research and at collecting a large series and biorepository of MA patients, finally aimed at describing the disease phenotype and clinical course as well as at identifying biological or cellular markers for disease progression. The present paper resumes the most important study methodological issues and preliminary results.

Nineteen centers are participating to the study. Patients with both bilateral and unilateral radiologically defined MA are included in the study. For each patient, detailed demographic and clinical as well as neuroimaging data are being collected. When available, biological samples (blood, DNA, CSF, middle cerebral artery samples) are being also collected for biological and cellular studies.

Ninety-eight patients (age of onset mean ± SD 35.5 ± 19.6 years; 68.4% females) have been collected so far. 65.3% of patients presented ischemic (50%) and haemorrhagic (15.3%) stroke. A higher female predominance concomitantly with a similar age of onset and clinical features to what was reported in previous studies on Western patients has been confirmed.

An accurate and detailed clinical and neuroimaging classification represents the best strategy to provide the characterization of the disease phenotype and clinical course. The collection of a large number of biological samples will permit the identification of biological markers and genetic factors associated with the disease susceptibility in Italy.

Incidence study of Guillain-Barré syndrome in the province of Ferrara, Northern Italy, between 2003 and 2017. A 40-year follow-up

Enrico Granieri, Nico Golfrè Andreasi, Paolo De Martin, Vittorio Govoni, Massimiliano Castellazzi, Edward Cesnik, Maura Pugliatti, Ilaria Casetta

Guillain-Barré syndrome (GBS) is an acute/subacute autoimmune inflammatory polyradiculoneuropathy. Previous epidemiological studies carried out in the province of Ferrara, Italy, from 1981 to 2002 indicated that GBS incidence had tendency of increase in the period considered.

We aimed at updating the epidemiology of GBS in the years 2003–2017 and carrying on the work started in the 1980s.

The AA conducted an incidence study, by adopting a complete enumeration approach. Cases were identified from administrative, medical records, and database of the Ferrara Hospital and other provincial structures of the study area. Case ascertainment and definition are analogous to those adopted in previous surveys.

In the period 1 January 2003 to 31 December 2017, 73 patients living in the province of Ferrara (mean population 353,142) were found to be new cases of GBS fulfilling the NINCDS criteria. Male/female ratio 1.15. The mean incidence rate was 1.38 per 100,000 (95% CI 1.08–1.74), 1.54 per 100,000 for men and 1.23 per 100,000 for women, a nonsignificant difference. During the period considered, the rates had slow increase or mild decrease, without nonsignificant difference. The highest rates were observed for the age groups 70–79 years for both sexes. A half of patients reported infectious events in the weeks before the onset of symptoms.

In line with many epidemiological data, in the whole period 2003–2017, the AA observed a trend towards increase or decrease in incidence and periods of relative stability. Similar temporal heterogeneity with the comparison to our previous works was found.