Education in neurology;
History of neurology;
Ethics in neurology;
Neurotoxicology

PP1078

The Babinski sign and its variants in the 21st century: a matter of consistency
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Introduction: The plantar reflex is an integral part of the neurological exam, and its importance seems untouched, notwithstanding increasingly reliable means of detecting pyramidal tract lesions. Its reliability however, remains an issue. Few studies have addressed this and compared the plantar reflex lesser-known variants regarding intra-observer and inter-observer agreement.

Methods: 62 patients were analyzed. The Babinski, Chaddock and Oppenheim reflexes were classified (extensor, flexor, equivocal) by three different observers, recorded and reclassified by the same observers months later. Kappa statistics was used for intra and interobserver agreement for all reflexes and for which duo of variants had the highest agreement between observers. A Wilcoxon test (exact) for the paired data (significance level (α) 0.05) was used for differences between the results obtained at different points in time and between reflexes.

Results: Intraobserver agreement was highest for the Oppenheim with a median kappa value of 0.35, followed by the Babinski (0.34) and Chaddock (0.29). No statistically significant differences were found. Interobserver agreement was highest for the Babinski with a median kappa 0.29, followed by Chaddock (0.23) and Oppenheim (0.13).

Conclusions: Consistency remains a drawback of the plantar reflex. Intra-observer agreement seems highest for the Babinski and Oppenheim; for inter-observer the Babinski fared better than the Chaddock and Oppenheim. When two reflexes are elicited, the Babinski – Chaddock combination appears to be the most reliable.

Disclosure: Nothing to disclose

PP1079

Clinical trial subjects consent process: challenges utilising legally authorised representative (LAR) consent and patient assent within global clinical trials
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Introduction: Multiple neurological conditions pose challenges within the global clinical trial setting pertaining to attaining timely and reliable consent by legally authorised representatives (LAR) with or without patient assent. The key challenges pertain to: adherence to regulatory and ethics requirements; trial site resource; reticence and concern of patient relatives to be legally authorised representatives; timely completion of consent process critically impacting trauma trial eligibility and protocol requirements.

Methods: Over 50 global clinical studies were reviewed conducted by Quintiles since 2008, focusing on identified operational issues and subsequent implemented mitigation strategies. Quintiles has developed an internal, proprietary database using de-identified, aggregated data from many sources. All references will be fully blinded for sponsor details and investigational product details.

Results: Key critical issues pertained to; relatives concern and reticence; regulatory & ethics board processes that impact study start up & timely enrolment. General consistencies and best practices for implementing the LAR consent process were noted. Additionally, there were considerable variations in handling LAR consenting between the different states in the US and between different regions in the same country. Clear differences in type & impact of these challenges were seen between neurological conditions.

Conclusions: Global data demonstrates large regional variations in regulatory & ethics committee positions on the LAR consent process. The challenges associated with the LAR consent process is further exacerbated by the unique operational issues at a site, physician, patient and patient’s relative level according to type of neurological indication. This data analysis will ensure more realistic future operational delivery models.

Disclosure: Nothing to disclose
**PP1080**

**Central nervous system toxicity of local anaesthetics: levobupivacaine and bupivacaine in spinal anaesthesia**

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**Introduction:** Systemic toxicity of local anaesthetics may occur as a consequence of unwanted intravascular or intrathecal injection, or after the administration of an excessive dose of these drugs. Systemic toxicity of local anaesthetic drugs primarily involves the central nervous system (CNS) and then the cardiovascular system. Usually, the CNS is more susceptible to the action of local anaesthetics than the cardiovascular system. Initial signs of CNS toxicity are usually excitatory and include shivering, muscle twitching, and tremors, which are produced by a preferential block of inhibitory central pathways. These signs of CNS excitation are followed by generalized CNS depression with hypoventilation, respiratory arrest and generalised convulsions.

**Methods:** A prospective, double-blind, randomised study with 60 ASA grade I-II patients aged 18-65 years awaiting knee arthroscopy under spinal anesthesia was performed. There were two patient groups which received 12.5mg of isobaric bupivacaine or 12.5mg of isobaric levobupivacaine. The characteristics of sensory and motor blockade and side effects were recorded.

**Results:** Sensory (p=0.018) and motor blockade onset (p=0.003) was faster in the bupivacaine group. It took less time to regain maximum motor blockade in the bupivacaine group (p=0.014). Moreover, bupivacaine regained a greater sensory blockade (p=0.008). Sensory and motor blockade duration were similar in both groups. Side effects were infrequent and minor: one patient in the bupivacaine group and one patient in levobupivacaine group had shivering. The symptoms were resolved completely during the first 24h.

**Conclusions:** Despite some studies providing evidence that levobupivacaine is less neurotoxic than bupivacaine, we found no differences between both agents at equivalent doses.

**Disclosure:** Nothing to disclose

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**PP1081**

**Cooperation between Europe and Africa for training neurologists for 50 years: successes, weaknesses, opportunities and challenges**

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Many reports emphasize the insufficiency of personnel in clinical and basic neurosciences in Africa. These last decades, great efforts are done for improving the number and the quality of trained staff for Africa. After the era of colonization, the cooperation has increased, leading to more training programs with ex-colonies. 50 years after, several specialists have been trained in Europe, then progressively and locally in Africa where a dozen of training sites exist nowadays. In the same period, the phenomenon of brain drain has retained 150 to 200 native African neurosciences professionals in European countries for various reasons. Those who went back to Africa or have been trained on site, face daily challenges, frustrations and some miraculous results, regarding the scarcity of human and material means. The gap is still huge. The numbers are various and are: In North Africa and the Republic of South Africa, there is now, one neurologist and/or psychiatrist for 200,000. For the rest of the continent the ratios range from one neurologist for 500,000 to 5,000,000 people. For Sub-Saharan Africa, 540 million people are managed with 75 EEG machines, 65 CT scanners and 22 MRIs. Local and international initiatives are also described in this report which demonstrates that, with originality and cooperation, we can make the difference. A SWOT analysis also seeks ways of strengthening a sustainable cooperation between Europe and Africa for neurosciences fields.

**Disclosure:** Nothing to disclose
PP1082

Does neurology residency prepare one for clinical practice? An EAYNT survey

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Introduction: The transition from a resident to a neurologist is challenging and requires skills beyond theoretical knowledge. We aimed to determine the perceptions of residents and junior neurologists regarding the adequacy of their training for clinical practice.

Methods: An anonymous paper-based survey developed by officers of the European Association of Young Neurologists and Trainees. It was distributed to the 120 participants of a Neurology Course in 2013 organized by the European Federation of Neurological Societies. The domains surveyed included perceptions regarding overall preparation for clinical practice, quality of supervision and teaching, guidance to obtain practical skills. The rating was performed on a 5 point scale (0=unsatisfied; 4=very satisfied).

Results: Eighty-eight (73%) returned the survey. The median work experience was 4 years, 45% had the national board certification. Only 52% of the respondents were generally satisfied with the neurology training they received. The respondents indicated many deficiencies in the curricula. Almost 42% reported that they had not received the adequate skills to manage neurological emergencies. Nearly 70% were not satisfied with the available research opportunities during residency.

Conclusions: Our study indicates that there are major gaps in residency curricula in the European Union (EU) and neighboring countries. An EU-wide core curriculum for residency training with common paths devoted to acquisition of practical skills and preparation for future clinical work was defined by the Union of European Medical Specialists. Adoptions of the European core curriculum on the national levels are eagerly awaited.

Disclosure: Nothing to disclose

PP1083

Regulation of HIF prolyl hydroxylase 2 by gingerol in preventing prion protein-mediated neuronal toxicity

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Introduction: Prion disease is one of the progressive conditions, and it is a fatal brain disease that affects both humans and domestic animals. PrP (106-126) retains the neurotoxic properties of the entire pathological PrPsc and it is generally used as a reasonable model to study the mechanism of prion diseases. Our previous studies have shown that HIF-1α is involved in the gingerol-mediated protection of neuron cells.

Methods: The Hypoxia Inducible Factor (HIF) mediates cellular adaptations to low oxygen. Prolyl hydroxylase 2 (PHD2) is oxygen sensor that hydroxylate the HIF alpha-subunit, promoting its proteasomal degradation in normoxia. We have hypothesized and investigated that gingerol inhibits the activity of PHD2, and prevents the HIF-1α protein proteasomal degradation, thereby prevents the occurrence of PrP (106-126)-induced neuronal apoptosis.

Results: Briefly, our results indicated that gingerol prevents the occurrence of PrP (106-126)-induced neuronal apoptosis via HIF-1α up-regulation mediated by inhibiting of PHD2 activity in normoxia. Moreover, the protective effect of gingerol against PrP (106-126)-induced neuronal apoptosis was involved in the upregulation of the expression of PrPc protein.

Conclusions: In conclusion, our results indicate that gingerol has a therapeutic potential for prion disease because its inhibitory effect on the catalytic activity of PHD2 might be of clinical benefit.

Disclosure: Nothing to disclose
PP1084
Lactoferrin-mediated inhibition of prolyl hydroxylase 2 prevents prion protein-mediated neuron cell death

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Introduction: Prion disorders are associated with the conversion of normal cellular prion protein (PrPc) to the abnormal scrapie isoform of prion protein (PrPsc). Recent studies have shown that expression of normal PrPc is regulated by hypoxia-inducible factor 1 alpha (HIF-1α), and that lactoferrin increases full-length PrPc on the cell surface. Lactoferrin is an 80kDa iron-binding glycoprotein with various biological activities including iron chelating ability.

Methods: HIF-1α and the associated ubiquitin-proteasome pathway are regulated by HIF prolyl-hydroxylases 2 (PHD2). We hypothesized that lactoferrin regulates PHD2 expression and enzymatic activity, and the PHD2 regulation promotes HIF-1α stabilization and prevention of neuronal cell death mediated by prion protein (PrP) residues (106-126).

Results: Lactoferrin protects against PrP (106-126)-induced neurotoxicity by the induction of PrPc expression via strengthening of HIF-1α stabilization in neuronal cells. Furthermore, lactoferrin promotes HIF-1α stabilization through down-regulation of the PHD2 protein and inhibiting the PHD2 activity.

Conclusions: These results demonstrated that lactoferrin prevents PrP (106-126)-induced neurotoxicity via the up-regulation of HIF-1α stabilization which determined by PHD2 expression and enzymatic activity. In addition, these findings suggest that possible therapies such as PHD2 inhibition, or promotion of lactoferrin secretion, may have clinical benefits in neurodegenerative diseases, including prion disease.

Disclosure: Nothing to disclose

PP1085
Patients’ carer involved care

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Introduction: Here we involve the own patients’ carers to participate in the patients own care in the acute stage during the initial days of their hospital stay after an ultra short training and meticulous selection instead of waiting without management aiming at: 1-Better commitment from the patient carer if they were well selected. 2-Reduce burden upon the available nursing staff in the ward by the carers assistance. 3-Improving the quality doesn’t always necessitate spending more money. 4-Improving the home care of the patient after hospital discharge by creating experienced carers. 5-Zero cost.

Methods: Comparative study between two groups of patients each of them was formed of 5 patients. Group one including patients only, Group two including patients and involvement of their carer in the acute management.

Results: Group 2 including the patients and their carer showed a better outcome as regard activity of daily living, shorter hospital stay and less financial burden than group 1 including the patients only.

Conclusions: Overall prognosis of patients whose carers were heavily involved in their relative’s plan of management from the start can represent an outlet for the limited resources in the developing countries.

Disclosure: Nothing to disclose

PP1086
Prevalence and predictors of burden in caregivers of people with chronic neurological disease

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PP1087

Seizure and severe hyponatraemia in drug abusers: a clue to synthetic cannabinoids consumption?

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PP1088

Coincidence of ischemic stroke and lead poisoning - a case report

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PP1089

Abstract withdrawn

PP1090

Adherence to stroke treatment pathway reinforced by stroke education program

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PP1091

Telemedicine – is tele-EEG, tele-electrophysiology and telecytology possible? – a feasibility study

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PP1092

Biomedical ethics in Russian neurology: successes and problems

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PP1093

Cognitive, extrapyramidal and proprioceptive dysfunction after glyphosate – surfactant herbicide exposure

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PP1094

Knowledge and awareness regarding Parkinson’s disease in the general population – truth and prejudice

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PP1095

Impact of the implementation of the European Working Time Directive in burnout levels of trainee neurologists: a longitudinal study

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PP1096

Awareness of pain management in Greece

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