Epilepsy 1

**PP2050**

**Down syndrome and late onset myoclonic epilepsy in Down syndrome: investigation of EPM1 gene mutations in two cases**

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**Introduction:** Trisomy 21, alias Down syndrome (DS), is a relatively common genetic condition with an incidence dependent on maternal age. Senile myoclonic epilepsy is being increasingly recognized as a late onset complication in elderly patients with Down syndrome in association with cognitive decline. This specific syndrome bears some broad clinical and EEG similarities to the progressive myoclonic epilepsies, particularly Unverricht-Lundborg disease (ULD). Interestingly, both EPM1 gene for ULD and amyloid precursor protein (APP) gene, which is implicated in Alzheimer Disease are both located on chromosome 21. Our aim was to find out a shared pathogenetical mechanism for clinico-electrophysiological similarities in these different genetic syndromes.

**Methods:** Two patients aged 53 and 58 years, with a history of 4 years of late onset myoclonic epilepsy, were included in the study. After obtaining written informed consent from their legal custodian, blood samples were taken. Dodecamer repeats and other possible EPM1 mutations on the chromosome 21 were investigated after isolation of DNA from their blood samples.

**Results:** Epileptiform abnormalities on the frontal regions with generalized slowing were found on their EEG recordings. Their myoclonic seizures were partially controlled under valproate and levetiracetam treatments. We could not find any dodecamer repeats and point mutations after genetic analysis.

**Conclusions:** Our study did not show any mutations of EPM1 gene on chromosome 21 but did not exclude a shared genetic mechanism in these syndromes. Extra genes on the third copy of chromosome 21 or epigenetic factors may play role in this distinct type of epilepsy in DS.

**Disclosure:** Nothing to disclose

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**PP2051**

**Serum natural neurotropic autoantibodies in epilepsy patients**

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**Objective:** To study the levels of autoantibodies (AAB) to brain proteins-antigens (NF-200, GFAP, BMP, and S100β) in blood serum of patients with idiopathic and symptomatic epilepsies.

**Methods:** We studied 52 patients with epilepsy (main group) at the average age of 36.2±14.7 years old. The main group was divided into 2 groups: I group - 38 patients with idiopathic epilepsy, II group - 14 patients with symptomatic epilepsy. The control group consisted of 16 healthy subjects. Immunological studies were conducted with ELI-test by immunoenzymatic analysis. The data obtained were processed using methods of variation statistics

**Results:** We observed significant elevation of AAB to protein S100β in epilepsy patients, greater in idiopathic epilepsy, compared to control (54.3±10.3; 39.4±10 and 5.8±1.3 CU, respectively, δ<0.001). The levels of AAB to MBP were high in the first group (14.9±4.9 CU, δ<0.001), while in the second group were low (2.6±4.3 CU), in comparison with control (8.0±4.7 CU). The levels of AAB to GFAP were higher in symptomatic epilepsy (13.9±7.9 CU, δ<0.001). Patients with idiopathic epilepsy had higher (22.0±6.7 CU) levels of AAB to NF-200 vs. patients with symptomatic epilepsy (11.4±6.4 CU) (δ<0.001).

**Conclusions:** Thus, all groups of epilepsy patients differed from control group by as individual levels, as degree of deviations of the studied immunological parameters. Early-initiated immunotherapy may improve seizure outcome in such patients.

**Disclosure:** Nothing to disclose
PP2052

Effect of oxcarbazepine (Oxapine) on cognitive functions in epilepsy

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To study effect of oxcarbazepine on cognitive functions in adult patients with epilepsy.

Material: We studied 48 patients with partial seizures (mean age – 33.8±15.3 y.o.) who had not previously treated with other AEDs. All patients received monotherapy with oxcarbazepine at doses of 300; 600 and 1200 mg/day. Follow-up was for over six weeks. We conducted EEG, assessed cognitive functions by using MMSE scale, test to memorize five words, clock drawing test and test for speech activity. The effectiveness was measured by between-group comparison of patients.

Results: The results were statistically significant in favor of the oxcarbazepine 1,200mg/day group (on 41.2% and 14.8%) compared to the oxcarbazepine 300mg/day and 600mg/day group (p<0.0001). The time to meeting one of the exit criteria was also statistically significant in favor of the oxcarbazepine 2400 mg/day group, (p=0.0001), however, we observed CNS side effects in ≥5% of patients treated with oxcarbazepine 2,400 mg/day. The best results on cognitive functions were observed in the oxcarbazepine 1,200mg/day group. The worse effect by influence as on seizures, as on cognitive functions was marked in the oxcarbazepine 300mg/day group.

Conclusions: Treatment with oxcarbazepine should be initiated with a dose of 600mg/day. If clinically indicated, the dose may be increased by 300mg/day at approximately weekly intervals to 1,200mg/day. Most patients were not able to tolerate the 2,400mg/day dose, primarily because of CNS effects. Oxcarbazepine is effective at a dose of 600-1,200mg/day and improves cognitive functions in most epilepsy patients.

Disclosure: Nothing to disclose

PP2053

Epilepsy impairs long-term functional outcome after different stroke subtypes

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Objective: To determine the influence of post-stroke epilepsy on long-term functional outcome in stroke survivors.

Methods: This study is a prospective cohort study among 140 stroke survivors with a first-ever TIA, ischemic stroke, or intracerebral hemorrhagic (ICH) stroke, aged 18 to 90 years. After a mean follow-up of 10 years, we performed a follow-up assessment that included an evaluation for post-stroke epilepsy and functional outcome. Odds ratios for poor outcome on the modified Rankin Scale (mRS) (score>2) and Instrumental Activities of Daily Living (IADL) (score<8) were calculated using logistic regression analysis.

Results: One hundred twelve patients (80%) with ischemic stroke, 4 patients (2.8%) with TIA, and 28 patients (20%) with ICH developed post-stroke epilepsy. Ischemic stroke patients with epilepsy more often had a poor functional outcome than those without, both on the mRS and IADL (mRS score>2: 24.5% vs. 9.2%, p=0.001; IADL<8: 28.8% vs. 14.6%, p=0.02). In this case, epilepsy occurred in 24.5% of patients with cardioembolic stroke. Epilepsy was not related to functional outcome in patients with TIA and ICH. Multiple regression analysis revealed that epilepsy was an independent predictor of poor functional outcome after ischemic stroke assessed by mRS (mRS score>2: odds ratio 4.02, 95% confidence interval 1.33-8.60). In contrast, there was no such relation for IADL.

Conclusions: Epilepsy after stroke is a common problem that negatively affects functional outcome, even more than 10 years after ischemic stroke.

Disclosure: Nothing to disclose
**PP2054**  
**Relatively benign course in the long term follow-up of two cases with epilepsy associated with NMDAR-antibody positivity**  
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**Introduction:** Autoimmune encephalitis associated with N-methyl-D-aspartate receptor (NMDAR)-antibodies (Ab) usually presents with psychiatric disturbance, seizures, dyskinesias, impaired consciousness and autonomic dysfunction. The majority of the original cases were young women with ovarian teratoma. Although patients presenting with non-paraneoplastic or isolated syndromes have also been documented, their long-term outcomes are not well known.

**Methods:** The clinical, laboratory and long-term follow-up findings of two NMDAR-Ab positive male patients diagnosed with focal epilepsy of unknown cause were investigated retrospectively.

**Results:** A 43-year-old male admitted 20 years ago with seizures, subfebrile fever and amnesia. The CSF analyses were unremarkable and EEG showed diffuse slowing. He subsequently developed drug-resistant focal epilepsy and 10 years after these initial symptoms he presented with episodic postictal paranoid psychosis. In the last three years, the seizure frequency has markedly decreased and psychotic symptoms have been completely resolved. The 40-year-old second patient presented with convulsive seizures during sleep with left temporal spikes in the EEG and postictal tachycardia 5 years ago. His focal seizures with autonomic and cephalic aura were controlled with carbamazepine. He had only a depressive episode and cognitive assessment showed slight long term memory deficit with moderate attention disturbance. Both patients had nonspecific white matter lesions on MRI. None of them received immunotherapy due to relatively benign course in the long term follow-up.

**Conclusions:** Relatively benign long-term course of our patients suggests that NMDAR-Ab is associated with a larger clinical spectrum than previously believed and NMDAR-Ab encephalitis might present with mild and restricted clinical features.

**Disclosure:** Nothing to disclose

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**PP2055**  
**Structural covariance mapping delineates medial and medio-lateral temporal networks in déjà vu**  
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Déjà vu (DV) is an eerie phenomenon experienced frequently as an aura of temporal lobe epilepsy, and reported commonly by healthy individuals. Neuroscientific investigations are beginning to elucidate the underlying neurophysiological substrates, implicating medial and lateral temporal cortex in both pathological and non-pathological DV. This supports the notion of DV as a memory-based illusion, resulting from acute perturbation of memory-related brain systems. The mechanisms underlying such perturbation remain to be explored in non-pathological DV, however. To address this, the present study builds upon the finding that DV frequency in healthy individuals is related to structural alterations throughout the medial and lateral temporal cortex. Specifically, on the basis of evidence showing that covarying measures of grey matter between two brain regions indexes connectivity between them, we investigated the relationship between DV frequency and structural connectivity among brain structures implicated in non-pathological DV. Structural covariance mapping revealed two patterns of grey-matter covariance: Among the first, comprised primarily of limbic structures and the caudate, correlations in grey-matter volume became increasingly positive with higher DV frequency; the second encompassed medial and lateral temporal structures, among which higher DV frequency was associated with increasingly negative grey-matter correlations. Comparing these structural findings with a measure of functional connectivity among the same set of brain regions implies that these two covariance patterns reflect two distinct networks. We suggest DV emerges as a result of altered patterns of neural activity within and between these two networks, leading to these distinct patterns of coordinated structural alterations.

**Disclosure:** Nothing to disclose
PP2056

Hyperfamiliarity for faces – a rare syndrome

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Introduction: Kraepelin first described the illusion of familiarity in 1890. This disorder, called hyperfamiliarity for faces syndrome (HFFS) is modality-specific and stimulus-specific syndrome in which unfamiliar people or faces seem familiar. Occurs in the absence of psychiatric illness, emotional disorder or cognitive impairment.

Methods: Case report.

Results: A 57-years-old woman, with personal history of achondroplasia, hypertension and dyslipidemia was admitted at the emergency department (EM) with generalized tonic-clonic seizures (GTCS). Over the past 2 days she had been complaining of headaches and memory loss. At admission she was disoriented with an attention deficit and verbal memory impairment. Blood and CSF biochemistry as well as brain CT scan were unremarkable. Acid valproic was started without clinical evidence of seizures relapsing. Since her first day in ward she reported a continuous phenomenon of hyperfamiliarity for faces (“I know everyone”). She underwent brain MRI without change and the EEG showed left temporal paroxysmal activity. Work-up diagnosis of infectious and immune/paraneoplastic encephalitis was negative. The patient was empirically treated with acyclovir and metilprednisolone without benefit. Only after the introduction of levetiracetam she showed progressive remission of HFFS.

Conclusions: The diagnosis of HFFS is based on a selective false familiarity of multiple faces. Although of uncertain aetiology it was identified in patients with epilepsy or GTCS being considered by some authors a post-ictal phenomenon of left temporal lobe seizures. The rarity of HFFS is probably due to the under-recognition of this paramnesia.

Disclosure: Nothing to disclose

PP2057

Long-term efficacy and tolerability of zonisamide as monotherapy or adjunctive treatment in epilepsy patients: an observational study

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Introduction: Zonisamide (ZNS) is an antiepileptic drug with a broad spectrum of action mechanisms. While ZNS is usually indicated for the adjunctive treatment of partial seizures in Western countries, it is licensed for partial and generalized seizures as monotherapy or adjunctive treatment in South Korea. We performed the present study to evaluate the long-term efficacy and tolerability of zonisamide in clinical practice.

Methods: This is a retrospective, single-center, long-term observational study. A total of 148 patients (82 men, 66 women, aged 14-85 years) who were initiated with ZNS as monotherapy or adjunctive treatment were included. The usual starting dosage of zonisamide was 100mg/day and optimal-dose adjustments were made according to individual clinical responses. Efficacy and tolerability were analyzed every year during 5-year follow-up.

Results: The overall retention rate was 66.1% at 1 year and 55.1% at 5 years follow-up. Patients with monotherapy (70.8% versus 44.1%) and generalized seizures (71.6% versus 48.2%) were more likely to continue ZNS compared with those with adjunctive therapy and partial seizures. The most common cause of discontinuation was adverse events such as somnolence, skin rash, and gastrointestinal problems.

Conclusions: Our study shows the tolerability and efficacy of ZNS in the treatment of patients with partial and generalized seizures as in monotherapy and adjunctive therapy. The retention rate of ZNS was comparable to those of other antiepileptic drugs including lamotrigine, topiramate, and levetiracetam. Further studies would be necessary to confirm the effect of ZNS in generalized seizure and as monotherapy.

Disclosure: Nothing to disclose
**PP2058**

**Efficacy and safety of zonisamide in treatment of partial, generalized or combined seizures in adults with epilepsy – a pooled data analysis**

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**Introduction:** The purpose of the study was to evaluate safety and efficacy of Zonisamide in the treatment of partial, generalized or combined seizures in Indian adults.

**Methods:** This prospective, non-comparative, open-label observational study enrolled 655 patients from 30 centres throughout India. Adult patients with partial, generalized/combined seizures received 100mg Zonisamide OD as monotherapy/adjunctive therapy for 24 weeks, with 2 weekly dose titration as required. Evaluation was done at 4, 8, 12, 16, 20 and 24 weeks to evaluate safety (adverse events) and efficacy (seizure freedom and responder rate). Efficacy and safety were also assessed using Clinicians Global Assessment of Response to Therapy (CGART) and Patients Global Assessment of Tolerability to Therapy (PGATT) respectively.

**Results:** Out of 655 patients enrolled, 563 completed the study. Zonisamide was used as first line therapy and first add-on in 20.92% and 59.85% patients respectively. A significant decrease in seizure frequency was seen at every follow up visit as compared to baseline (p<0.0001) with maximum change seen at week 24 (mean change from baseline= -3.98, 95% CI -3.39 to -4.57). 24 week seizure freedom and responder rate was seen in 41.22% and 91.15% patients respectively. Discontinuation due to adverse effects of drug was seen in only 0.92% patients. 55.61% patients showed good response (CGART) and 57.32% showed good tolerability (PGATT) to Zonisamide therapy at week 24.

**Conclusions:** Zonisamide is an effective treatment in partial, generalized as well as combined seizures in adults with a good tolerability profile. No new safety signals were observed.

**Disclosure:** The presenting author is an employee of Eisai Pharmaceuticals India Private Limited.

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**PP2059**

**Bone mineral density in epileptic adolescents treated with antiepileptic monotherapy**

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**Introduction:** Antiepileptic drugs can produce negative influence on bone mineral density in adolescents with epilepsy.

**Methods:** We evaluated influence of lamotrigine (LTG) and valproate (VPA) on lumbar bone mineral density (BMD L1-L4) in adolescents with epilepsy. Lumbar bone mineral density Z-score (BMD L1-L4 Z-score) was measured in 31 adolescents with epilepsy aged 13-18 years, both genders treated with lamotrigine (n=15) or valproate (n=16) monotherapy longer than 1 year. Patient lumbar spine BMD Z-scores values were compared with matched control group values (32 healthy adolescents, both genders). All patients were ambulatory and had similar physical activity and calcium intake. Patients and control group are gender, weight and height matched. For statistical analysis we used software SPSS version 15 (Mann-Whitney U-test and Pearson’s correlation). Statistical significance was p<0.05.

**Results:** The lumbar spine BMD Z-score values in epileptic patients treated with lamotrigine were not significantly lower compared with control group values (0.69±0.93 vs. 0.96±0.86; p=0.37; n.s.), as well as in epileptic patients treated with valproate (0.75±0.87 vs. 0.96±0.86; p=0.56; n.s.) Therapy duration had not negative influence on lumbar BMD in both patient groups (rxy=0.10; p>0.05).

**Conclusions:** Lumbar BMD Z-scores were lower in the patient group treated with lamotrigine or valproate compared with control, but not significantly, and there were not dependent on therapy duration.

**Keywords:** Epilepsy, valproate, lamotrigine, adolescents, bone mineral density, Z-score

**Disclosure:** Nothing to disclose
PP2060

No need to record habitual seizures in temporal lobe epilepsy patients with congruent non-invasive interictal EEG and MRI results

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Introduction: To evaluate the need of ictal EEG in epilepsy surgery candidates with unitemporal interictal epileptiform discharges (IED) and MRI detected ipstemporal pathology.

Methods: In the database of our epilepsy monitoring unit 304 patients with temporal lobe epilepsy (TLE) were identified. Based on expert opinion 275 unilateral, 19 bilateral and 10 non-lateralized TLE were defined. Patients with unilateral TLE missing ictal EEG (n=1) or MRI (n=3) were excluded. Stochastic calculations were based on 1967 ESP of 275 TLE patients having at least two lateralized ESP.

Results: IED were recorded in 98% of the unilateral TLE patients. Purely unitemporal IED, consistent with side of TLE in all cases, were present in 61% of these patients. Ipsitemporal MRI pathology was found in 83% of these patients. Ictal EEG was consistent with side of TLE in 99% of these patients.

Calculations using mainly binomial distribution and Bayes’ Theorem revealed, that in EVM six seizures were needed to receive a concordance greater than 0.9 with a probability greater than 95%.

Conclusion: Despite of excellent lateralization value (Chi Square, p<0.001) of purely unitemporal IED with ipsitemporal MRI pathology, rare patients (1%) showed discordant ESP. However, both patients were seizure free after lesion resection. Our data support the view that is not mandatory to record seizures in TLE patients with congruent interictal EEG and MRI. Following stochastic analysis at least six ipsilateral ESP are recommended in case of incongruent data.

Disclosure: Nothing to disclose

PP2061

Treatment of resistant epilepsy with pyridoxine in an adult patient with spastic tetraparesis and severe learning disability: a case report led discussion of the literature

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Introduction: Pyridoxine-responsive epilepsy is well known in children, here we report that a 29 year old patient with neonatal onset intractable epilepsy showed a significant clinical improvement with addition of pyridoxine.

Case: She is chairbound due to a spastic quadriparesis, learning disabled and tube fed. She had been treated with numerous anti-epileptic drugs from her first days of life without ever fully controlling seizures, leading to the frequent administration of rectal diazepam and subsequently buccal midazolam in her twenties for frequent clusters and status. A significant reduction in seizure frequency and severity of was obtained after adding pyridoxine to her treatment, subsequent dose reduction caused a re-emergence of seizures severe enough to require midazolam. The use of midazolam fell from “more days than not” to less than monthly.

Discussion: Three main conditions have emerged in the years since pyridoxine dependency was described – the original condition, pyridoxine responsive epilepsy and recent studies suggest vitamin B6 reduction may be linked with long term anti-epileptic treatment but its contribution to chronic AED-resistant epilepsy remains obscure.

Conclusion: Our patient highlights the importance of considering pyridoxine as an adjunctive therapy in chronic AED-resistant epilepsy of adults dating from childhood and the improvement in quality of life for her family and herself due to this intervention. The different entities involving pyridoxine in epilepsy will be discussed in depth.

Disclosure: Nothing to disclose
PP2062

Epileptic seizures and epilepsy in patients with stroke: a five-year study including stroke patients in Kosovo

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Introduction: Some patients after ischemic stroke and hemorrhagic stroke develop a seizure, and a small number go on to develop secondary epilepsy. The aim of this study was to analyse in detailed stroke patients that develop epilepsy and to determine the most affected age group, most affected sex and most affected patients according to their living place. In addition, we have analysed distribution between two types of strokes: haemorrhagic and ischaemic.

Methods: This is a retrospective cross sectional study seted in the Neurology Clinic in Kosovo. We have retrospectively included patients that have been hospitalized in our clinic in a five years period, suffering an ischaemic or haemorrhagic stroke.

Results: Out of 3,700 stroke patients (mean age 69.3±6.8 years old, 68.1% males) included in this study 185 (mean age 67.1 years old) have developed epilepsy. Majority of patients (80.54%) have suffered an ischaemic stroke, whereas 19.46% of patients suffered as haemorrhagic stroke. According do geographical areas most of those that developed epilepsy lived in rural countries (62.4%). Furthermore, males were more frequently affected compared to females with 57.1%.

Conclusions: Only 5% of patients with haemorrhagic and ischaemic stroke developed epilepsy. Most of the patients affected were males. In addition, most of them lived in rural areas rather than in cities. According to etiology, most of the stroke patients associated with epilepsy were ischaemic.

Disclosure: Nothing to disclose

PP2063

Sexual dysfunction in young men suffering from idiopathic epilepsy

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Introduction: Epilepsy is an important problem of Neurology. Prognosis of epilepsy has been improved during last years: in a significant number of patients it became possible to achieve seizure control by taking antiepileptic drugs. It has been noted that antiepileptic drugs can lead to sexual dysfunction, however this problem was not studied in Ukraine yet.

Methods: 124 men with idiopathic epilepsy aged 18-35 years were examined. All patients were on monotherapy: 32 patients took valproates, 31 - levetiracetam, 31 - topiramate, 30 - lamotrigin. The Male Sexual Quotient exam (MSQE) was used for sexual function assessment.

Results: Sexual dysfunction in patients taking valproate was observed in 68.8%, levetiratsam group - 16.1%, topiromate group - 35.8%, lamotrigine group - 36.7%. The main cause of sexual dysfunction in all groups was reduced or absent libido (90%, p=0.012). In the group of patients taking valproate erectile dysfunction cases were recorded (53.1%, p=0.015).

Conclusions: The impact of antiepileptic therapy on sexual function of young men should be considered when choosing treatment. Preference should be given to new generation drugs.

Disclosure: Nothing to disclose
PP2064

Post-stroke epilepsy

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Introduction: Cerebrovascular lesions are the leading cause of epilepsy in the elderly and occurrence of post-stroke epilepsy in different studies ranges between (4.4% - 42.8%).

Methods: Examined group consisted of 30 patients (17 male and 13 female) with post-stroke epilepsy; control group consisted of the same number of patients without seizures two years after stroke. Localization of stroke was verified by computed-tomography, and the verification of seizure type was based on self and/or family history. For statistical analysis it was used x2 test, p<0.05 was considered as significant.

Results: Stroke in right cerebral hemisphere was verified in 73.4% patients examined, and in 43.4% of control group (p<0.05). Recurrent stroke was present in 26.6% (control group 6.6%). Stroke in frontal lobe was registered in 40% (control group 13.3%; p<0.05); temporal lobe in 20% (control group 16.6%); parietal lobe in 16.6% (control group 30%); without stroke in occipital lobe (control group 10%). Multiple lacunars lesions were found in 23.3% (control group 30%). In total sample (N=60) were found significantly more represented at females (p<0.05). Generalized tonic-clonic seizures were represented in 30% of patients; simple focal in 13.30%; focal with generalization in 33.33%; complex focal in 10%; Jackson (motor) in 13.30% patients.

Conclusions: Post-stroke epilepsy is more common in patients with stroke localized mostly in right hemisphere in frontal lobe. Epileptic seizures are predominantly focal type, with and without generalization.

Disclosure: Nothing to disclose