

Contents

- **World Brain Day 2019 'Migraine, The Painful Truth' – 22 July**
- **Letter from the President**
Lars Edvinsson
- **Update from the Honorary Secretary**
Stefan Evers
- **Dawn of new headache treatments – IHC 2019**
- **Cephalalgia Highlights**
Arne May
- **1st Turkish Paediatric Headache Winter School**
Ishaq Abu-Arafah
- **IHS Fellowship report**
Kuan Po Peng
- **Calendar of events**

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WORLD
BRAIN
DAY

July 22, 2019



Join us as we share the
painful truth about migraine.

#thepainfultruth #worldbrainday



LEARN MORE



World Brain Day 2019: 'Migraine, The Painful Truth'

The World Brain Day 2019 is dedicated to 'Migraine, The Painful Truth'. This is an historic and critically important partnership for IHS with a global organisation such as the World Federation of Neurology (WFN). This massive advocacy campaign is gaining significant momentum worldwide now, already reaching countless numbers of people through the American Migraine Foundation's Times Square 'Migraine Painful Truth' billboard advertising campaign.

MAKE AN IMPACT

World Brain Day 2019 Migraine, The Painful Truth

Share your activities

Use the hashtags

#migraine

#thepainfultruth

#worldbrainday

Let's get the whole world talking about
#migraine on 22 July 2019

Use the hashtags
#migraine
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#worldbrainday

Join the webinar on
22 July

Tissa Wijeratne (Chair, World Brain Day 2019, WFN)
David Dodick (IHS Immediate Past-President and World Brain Day Committee)

Migraine, The Painful Truth

Migraine is one of the most common and disabling diseases in the world. Migraine is responsible for 45.12 million years of life lived with disability and is the number 1 cause of disability affecting people aged 50 or less, the group with the highest contribution to the workforce worldwide. The negative impact migraine has on the global economy is enormous. A recent publication in the *Lancet Neurology*, The Global Burden of Disease Study on Headache Disorders, highlighted that almost 3 billion people experienced a headache disorder in 2016, and 1.04 billion have migraine (*Lancet Neurol* 2018;17:954–976).



The painful truth is that migraine continues to be stigmatised and under-recognised worldwide. Advocating for those with migraine in partnership with WFN is a unique and unprecedented opportunity to change this reality for millions of people and future generations.

World Brain Day 2019 provides us with a unique opportunity.

World Brain Day is a WFN initiative, aimed at improving awareness and advocacy related to neurological diseases, that takes place annually every 22 July, the anniversary of WFN's founding in 1957. WFN is a major organisation in close affiliation with the World Health Organization. The IHS-WFN partnership on the World Brain Day on migraine has the potential to create a massive positive impact in migraine advocacy worldwide.

We want you to take an active part in World Brain Day 2019 'Migraine, The Painful Truth'.

World Brain Day 2019's major focus is on the five key messages behind effective migraine advocacy:

- Prevalence: migraine is the most common brain disease in the world, affecting 1 in 7 people worldwide
- Disability: migraine is one of the leading causes of disability in the world and can severely impact every aspect of life
- Education: migraine is under-recognised, underdiagnosed and undertreated
- Research: migraine receives less research funding than any of the world's most burdensome diseases
- Standard of care: migraine is a disease where the majority of sufferers do not get the help they need.

For World Brain Day 2019, the WFN and IHS member societies are planning many activities across the globe, including seminars, media briefings, camps, walks and roundtables, all focused on migraine and other headache disorders. A special webinar is also planned for 22 July to coincide with World Brain Day itself.

Let's get the whole world talking about #migraine on 22 July

It has been most rewarding to see the fruition of the CGRP story advancing to practice

How to participate

We invite all IHS member societies, neurologists, neuroscientists, trainees, technologists, advocacy organisations and patient advocates to be part of World Brain Day's 'Migraine: The Painful Truth' campaign. You can participate by posting our banner advert on your webpage, and by sharing our posts, messages and videos with your friends and colleagues. You can also partner with local neurology, headache and advocacy organisations to participate in and promote these activities. Promotional material and a press toolkit to help with press contacts and mailing are available on the [World Brain Day website](#).



New York Times Square billboard

A professional press campaign has also been initiated, and continuous support is provided through WFN's website and social media.

Access the World Brain Day 2019 toolkit [here](#)



Letter from the President

Lars Edvinsson

Dear Colleagues,

How quickly time flies! Soon I will finish my 2 years as President for the IHS. It has been a privilege and honour to serve as your President and the Society for the 2017-2019 period. I have been around the globe for countless meetings and conferences to share my knowledge and to inspire colleagues and young scientists in the headache and pain fields, as well as to provide teaching of basic and clinical sciences.

What has happened during this period in general? When I joined the IHS Board as President-elect, the IHS leadership held a strategic meeting and the result has served as a guide for the work of the President and the President-elect. I especially want to congratulate Professor David Dodick for his work and visions, and the Board for their wise decisions. Much of the strategic plan has now been implemented to the benefit of our Society. This work has resulted in a balanced budget, more support for research fellowships, more educational and research grants, increased association with other organizations, inter alia.

Some further highlights to point out. We have published the 3rd headache classification ICHD-3 in January 2018, developed several guidelines for clinical trials (chaired by Professor Cristina Tassorelli), and held a Global Patient Advocacy Summit in conjunction with the IHC 2017 in Vancouver, which resulted in the "Vancouver Declaration 2018". These initiatives have increased awareness and also promoted partnership with the World Federation of Neurology (WFN) and the World Health Organization (WHO). IHS is proud to be working with WFN as co-organiser of the World Brain Day to occur on 22 July 2019 on the topic 'Migraine - The Painful

It is of utmost importance that we continue our teaching and education of colleagues all over the world at meetings large and small, in all classes of professionals involved in taking care of patients

Regional groups are the foundation of our society

Truth' and will hold joint sessions with WFN and WHO during the IHC 2019 in Dublin in September, and the World Congress of Neurology in Dubai in October. Lifting the Burden will have a session during IHC 2019 describing their hard and over the years successful work.

Personally, it has been most rewarding to see the fruition of the CGRP story advancing to practice during my presidency. Although the work on CGRP started early in 1983, the acceptance for use of monoclonal antibodies in prophylaxis of severe migraine by the FDA and EMA only occurred last year. The monoclonal antibodies are now in therapy in many countries around the world and patients and clinicians are reporting excellent results. It is gratifying to have witnessed such a successful journey from bench to bedside, something we all strive for in research, but few get to experience. Now in the pipeline we also have the gepants, small molecules with CGRP receptor blocking activity. I was around for the "near launch" of telcagepant in 2009 but the process was halted. Now Phase III data are at hand for the next generation of these molecules that, predictably within a year or so, will fill another gap in our therapy modes for helping the patients.

At this juncture, I think it is useful to stop and again reflect on the purpose and goals of our Society. I suggest that education and teaching of the vast amount of knowledge gathered over the last decades must be presented to the different patient groups worldwide. This will be a challenge to us all. However, numerous patients have reported that the new therapy has changed their lives for the better in a remarkable way. I am humbly touched and grateful for such reports as a scientist and a physician. However, although migraine is relatively common, it remains an underdiagnosed and undertreated disease. We need to find ways to raise awareness for patients and clinicians that new treatments are available. Perhaps we need to adjust how we educate different population groups, depending on socio-economics and development. Here e-learning may provide opportunities to reach the many. We need to continue to pursue promising initiatives such as the IHS Global Patient Advocacy Coalition (IHS-GPAC) and the growth of the European Migraine and Headache Alliance (EMHA) to reach out globally.

Recently, I have been honoured to open conferences and celebrate anniversaries of many regional headache societies (like the German Headache Society at its 40th anniversary this year, the Swedish Headache Society 50th year jubilee last year, and more). The work performed in the individual countries over numerous decades has inspired and impressed me. These regional groups represent the foundation of our Society. Inspiring colleagues have made contributions large and small, but all add to the collective advancement of knowledge in headache disorders. There has been a build-up of clinical headache centres to the benefit of the patients. It is of utmost importance that we continue our teaching and education of colleagues all over the world, at meetings large and small, in all classes of professionals involved in taking care of the patients.

I look forward to continuing to assist the Society in many ways in the years to come, disseminating results from our research, providing new scientific data and possibly new targets that can further help the patients. It is an exciting time as the amount of information coming from research is enormous and it is our task to understand and interpret its relevance and potential for therapy. How can this new knowledge be translated to practice? This and other questions will remain for a long time.

Professor Messoud Ashina will assume the post of President after the IHC 2019 congress in Dublin in early September and I have no doubt that he will add his touch to the future path of the Society. He is dynamic and has a strong position and dedication for clinical research. The foundation is solid, and the future of the Society will be in good hands.

With my warmest wishes to you all
Lars Edvinsson
IHS President

**IHC 2019 Late-
breaking abstract
submission open to
31 July**

**High number of IHS
members clearly
demonstrates the
excitement in
headache medicine
with the new
therapies**



Update from the Honorary Secretary Stefan Evers

I am pleased to give an update on IHS activities since the last Newsletter distributed in March 2019.

Membership

IHS membership numbers are very high in 2019 due to members joining to take advantage of the reduced member registration fee for the 19th International Headache Congress (IHC – Dublin, Ireland, 5–8 September) and junior members joining to apply for IHS grants and educational courses. We have exceeded 1,500 members, which is the highest number recorded this century, and clearly demonstrates the excitement in headache medicine with the new therapies.

IHC 2019

555 abstracts were submitted to IHC 2019 – again a very high number in comparison to recent congresses. There will be 18 oral presentations from the submitted abstracts, plus six young investigators will take part in the Headache Science Excellence Tournament. The remainder of the accepted abstracts will be displayed as posters, including digital poster sessions.

Late-breaking abstract submission is now open on the [IHC website](#) Late-breaking abstracts which showcase recently generated advances and information, results that were not known or fully available at the time of the regular abstract submission deadline, can be submitted. The deadline for submission is 31 July 2019.

The complete Scientific Programme is available on the [IHC website](#) and includes all speaker names. Programme highlights can be found in the article later in this newsletter. Pre-congress registration is open until 29 August. We are very encouraged by the number of registrations received to date.

IHS Board Trustee election results

Continuing the enthusiastic response of IHS members to our activities, we were very pleased that 47.5% of members voted in the recent elections for President-elect and Trustees (2017: 42.1%; 2015: 31.7%). The successful candidate for President-elect was Cristina Tassorelli from Pavia, Italy, who will become IHS President from 2021–2023, succeeding Messoud Ashina. New trustees Fayyaz Ahmed, UK, Gianluca Coppola, Italy, and Alexandra Sinclair, UK, were elected for their first 2-year term starting in September 2019. They will join the Trustees who were elected in 2017 who will remain for their second term in office: Mario Peres, Patricia Pozo-Rosich and Todd Schwedt. Anna Ambrosini, Rigmor Jensen and Gisela Terwindt, who have served two terms, will retire, as will David Dodick, Immediate Past-President. The successful candidates will be confirmed during the IHS Annual General Meeting to be held on 6 September in Dublin. Congratulations to the successful candidates, and many thanks to the other candidates for standing.

Cephalalgia

We can also report successful data from *Cephalalgia*, our society's journal. The impact factor for 2018 has risen to 4.438 (2017: 3.882). *Cephalalgia* is now ranked 35 of 199 in

Over 30 articles now
published in
Cephalalgia Reports

IHS continues its
education activities
with the forthcoming
6th iHEAD to be held in
Dublin, and an IHS
Master School in
Colombia

Clinical Neurology and 64 of 2,547 in Neuroscience journals. Congratulations and thanks are extended to Arne May, Editor-in-Chief, and Wendy Krank, Managing Editor, for their tireless contribution to our journal.

Cephalalgia will publish the next special issue in September, led by Jan Hoffmann and Phil Holland. The special issue centres around structure and function in headache, covering the knowledge about peripheral and central aspects of headaches over the last 30 years.

The *Cephalalgia* issues continue to be larger as we continue our work to decrease the print backlog to ensure faster print times for the future.

Cephalalgia Reports, the online silhouette journal to *Cephalalgia*, has now published over 30 articles and the publisher will apply for PubMed entry so the journal can start collecting citations.

We offer thanks to Richard Peatfield who will step down as *Cephalalgia* Book Editor in September, a role he has held since 2009.

IHS guidelines in preparation

Several IHS guidelines are in preparation by members of the Clinical Trials Committee:

- Adherence to 2008 IHS guidelines for controlled trials of drugs for the preventive treatment of chronic migraine in adults (Junior members – accepted for publication)
- Have the IHS guidelines for controlled trials of acute treatment of migraine attacks been followed? Laying the ground for the 4th edition (Junior members)
- Preventive treatment of episodic migraine
- Controlled trials on neuromodulation (device?) in migraine and cluster headache
- Idiopathic intracranial hypertension
- Cluster headache – the committee is aware that this a very important guideline but must ensure the correct endpoints are used.

Education activities

A 6th European International Headache Academy (iHEAD) will be held in Dublin in September, immediately prior to the IHC. This year the academy has been opened up to invite participants from all over the world and IHS received an unprecedented 186 applications for the 110 places available. The programme has been developed by Michel Ferrari, assisted by his PhD students, and as usual the format of the academy will focus on practical, hands-on learning with much delegate participation. Delegates will be involved in interactive teaching courses, present their favourite clinical or basic science paper published in the past 12 months, hold debates on CGRP assays and medication overuse headache, discuss migraine trial endpoints, and join workshop sessions focused on patient cases, reviewing a paper, neuromodulation treatment and slide/poster presentation.

Preparations are ongoing to hold an IHS Headache Master School in Colombia in October 2019, organised by the Colombian Neurology Society in collaboration with the IHS Education Committee. Daniel Nariño and Michel Volcy, the local organisers of the School, have been in close liaison with the IHS Education Chair, Allan Purdy, developing a programme which will combine didactic presentations with interactive case-based and debate sessions with much opportunity for questions and answers. Four international speakers, Cristina Tassorelli, Miguel Láinez, Manjit Matharu and Andrew Charles will join local experts; 80 delegates from Colombia and neighbouring countries in Latin America are expected to attend. They will undergo pre- and post-meeting tests to evaluate the level of achievement.

Four Visiting Professorships have been awarded; IHS will send two renowned specialists to teach in each of Nepal, Iran, Philippines and Kyrgyz Republic. With the exception of Iran, these are new countries for IHS to visit and the society is keen to meet the specialists in these regions and expand their knowledge of headache medicine.

Congratulations to all successful IHS grant and fellowship applicants

ICHD-3 slide kit now available

Grants and fellowships

IHS has awarded several grants and fellowships to junior colleagues. The successful award candidates are:

IHS Fellowship

Inge Loonen, Netherlands. Research title: The link between migraine aura and cerebrovascular endothelial dysfunction. Institution: Harvard Medical School-Massachusetts General Hospital – mentor: Cenk Ayata

Connor Westgate, UK. Research title: The search for disease mechanisms and new drug targets in idiopathic intracranial hypertension. Institution: Danish Headache Center – mentor: Sajedeh Eftekhari

The joint IHS/American Brain Foundation fellowship was awarded to:

Faisal Amin, Denmark. Research title: Streamlining clinical management and neuroimaging for precision diagnosis of post-traumatic headache

IHS Headache Trainee Programme

Khatia Gvantseladze, Georgia. Institution: Danish Headache Center – mentor: Messoud Ashina

The trainee will spend 3 months in Denmark working with Messoud and his team, and also attend IHC.

IHS Short-Stay Scholarships

Gunjan Kumar, India. Institution: Tallaght Hospital, Dublin – mentor: Sean O'Dowd

Agaath Hedina Manickam, India. Institution: Beaumont Hospital, Dublin – mentor: Martin Rutledge

Ana Podgorac, Serbia. Institution: Mater Hospital, Dublin – mentor: Roisin Lonergan

Each scholar will attend iHEAD and IHC, and spend up to 6 weeks as an observer in the institution.

IHC 2019 travel grants

The Juniors' Group has awarded 50 travel grants to young clinicians and researchers to attend IHC 2019.

International Classification of Headache Disorders (ICHD-3) translations and slide kit

Translations of ICHD-3 are now available in Brazilian Portuguese, Chinese, French, German, Japanese, Korean, Portuguese and Spanish, and can be found on the [IHS website](#). IHS has now updated the slide kit to accompany the ICHD-3 and this is also available on the [IHS website](#).

ICOP Orofacial pain classification

The first International Classification of Orofacial Pain (ICOP) which is created by a collaborative group consisting of members of the Orofacial and Head Pain Special Interest Group (OFHP SIG) of the International Association for the Study of Pain (IASP), the International Network for Orofacial Pain and Related Disorders Methodology (INFORM), the American Academy of Orofacial Pain (AAOP) and IHS, has incorporated all changes now initiated by members of all societies and will publish the final classification in autumn this year.

Stefan Evers

(everss@uni-muenster.de)

Register for
IHC today!

7 teaching courses
available

Late-breaking
abstract submission
open to 31 July

Dawn of new headache treatments – IHC 2019 Dublin, Ireland 5-8 September 2019



Preparations for the 19th International Headache Congress (IHC), 5–8 September 2019, Dublin, Ireland, are now very advanced.

This is a very exciting time in headache research. Delegates will learn about the most up to date research in basic and clinical science and gain a broad understanding of the scientific background of primary headache disorders, thus ensuring an exciting future for headache medicine.

Don't miss out on the congress highlights:

- Teaching courses on
 - the hypothalamus
 - medication overuse headache
 - primary and secondary headache
 - biomarkers of migraine
- Key sessions
 - Presidential Symposium – **Novel ways in migraine therapy** – cutting-edge research on the therapeutic potential of molecules that target pathophysiological mechanisms that differ from those targeted by drugs that directly disrupt CGRP signalling
 - IHC Special Lecture
 - World Brain Day for migraine – joint session with World Federation of Neurology and World Health Organization
 - CGRP and CGRP mAbs
 - Why is it that most drugs and devices developed for treatment of migraine succeed whereas almost all drugs and devices for pain fail?
 - Uncommon but important headache disorders in childhood
 - IASP/IHS crosstalk between social interactions and pain behaviour



**Key sessions on
CGRP and CGRP
mAbs and
uncommon
childhood headache
disorders**

- The CGRP-mAbs hype: the benefits, the ethics, the finance and the role of the treating physician
- 9 exciting 'One topic, two views' sessions – join the debate!
- 8 lunchtime sessions
- Headache Science Excellence Tournament – join the junior presenters and vote for the best!



At the end of the conference days, relax and explore Dublin. IHC 2019 will be held at the Convention Centre Dublin which is on the river Liffey, within a short walking distance of this beautiful and historic city. Trinity College (the Book of Kells), St Stephens Green, Kilmainham Gaol and the Guinness Brewery are only a few of the famous attractions on your doorstep. The conference will provide an ideal opportunity to meet colleagues and make new friends.

We look forward to welcoming you to the Emerald Isle.

**Take the opportunity
to explore the
vibrant city of Dublin
– information on
what to see on the
IHC website**



Cephalalgia continues as the foremost source for the most important clinical, basic and imaging science

Cephalalgia Highlights

Arne May



I am pleased to highlight some important science published recently in *Cephalalgia*.

Cephalalgia continues as the foremost source for the most important clinical, basic, and imaging science produced by the world's leading clinicians and scientists in the field of Headache. I will highlight only a portion of the most recent advances published over the past year. *Cephalalgia Reports* (<https://journals.sagepub.com/home/rep>) was launched only 1 year ago, but we have already secured 30 publications and this success means we will apply within this year for PubMed recognition.

Reviews are an important part of *Cephalalgia* content and the last year was no exception. Next to the themed special issues (this year an excellent compilation of articles highlighting CGRP and its role in headache and migraine led by Lars Edvinsson and Peter Goadsby), *Cephalalgia* published several stand-alone reviews covering important issues such as diagnostic and classification tools in headache disorders, mindfulness-based stress reduction as a treatment tool for migraine, migraine and stroke, GON block in migraine treatment, the extent of cerebellar involvement in migraine, and last but not least, new guidelines for controlled trials of acute migraine treatment, which marks the start of a whole series of updates of existing and also new IHS guidelines.

Potter R, Probyn K, Bernstein C, et al. Diagnostic and classification tools for chronic headache disorders: a systematic review. *Cephalalgia* 2019;39:761–784.

Diener H-C, Tassorelli C, Dodick DW, et al. Guidelines of the International Headache Society for controlled trials of acute treatment of migraine attacks in adults: fourth edition. *Cephalalgia* 2019;39:687–710.

Inan LE, Inan N, Unal-Artı HA, et al. Greater occipital nerve block in migraine prophylaxis: narrative review. *Cephalalgia* 2019;39:908–920.

Anheyer D, Leach MJ, Klose P, et al. Mindfulness-based stress reduction for treating chronic headache: a systematic review and meta-analysis. *Cephalalgia* 2019;39:544–555.

Terrin A, Toldo G, Ermani M, et al. When migraine mimics stroke: a systematic review. *Cephalalgia* 2018;38:2068–2078.

Purdy RA, Diener H-C. Migraine mimicking stroke: what to do? *Cephalalgia* 2018;38:1995–1997.

Kros L, Angueyra Aristizábal CA, Khodakhah K. Cerebellar involvement in migraine. *Cephalalgia* 2018;38:1782–1791.

Migraine is known to be the third most common disease and the sixth most disabling disease. In the US alone, approximately 1 in 7 adults report severe headaches or migraine in the past 3 months. Study results have shown that the use of prophylactic migraine medications decreases patients' use of medical resources and, consequently, overall healthcare costs.

Claims-based prediction model can identify individuals with undiagnosed chronic migraine

It is extremely important to treat such patients as early as possible. But what if chronic migraine is not diagnosed properly? Pavlovic et al. developed a highly innovative claims-based prediction model to identify individuals with undiagnosed chronic migraine. They tested 108 patients and using claims and patient survey data and 40 predictor candidates they were able to identify four predictors of undiagnosed chronic migraine that included number of claims for acute treatment of migraine (including opioids), number of healthcare visits, being female, and claims for unique migraine preventive classes. When combined, these four variables possessed a high predictive power with sufficient sensitivity and specificity for chronic migraine.

Pavlovic JM, Yu JS, Silberstein SD, et al. Development of a claims-based algorithm to identify potentially undiagnosed chronic migraine patients. *Cephalalgia* 2019;39:465–476.

Houle TT, Turner DP. The vast potential of claims data to reduce undiagnosed chronic migraine. *Cephalalgia* 2019;39:463–464.

MOH is one of the enigmas in chronic migraine – successful treatment offers economic benefits

Medication overuse headache (MOH) is one of the enigmas in chronic migraine. Epidemiological data suggest that up to 4% of the population overuse analgesics for the treatment of headache and migraine and that about 1% of the general population has MOH. Withdrawal therapy is the only treatment for this disorder and clear restriction of monthly doses is the central requirement for successful prevention. Jellestad et al. showed in 475 patients with MOH from four European and two Latin American headache centres that such effective treatment also has a significant economic benefit as it reduces direct healthcare costs and increases productivity. But the mechanisms behind MOH are still not understood, although loss of conditioned pain modulation/diffuse noxious inhibitory controls has been suggested. Nation et al. investigated in an animal model whether regular intake of acute migraine medications lead to dysregulation of central pain modulatory circuits and whether this pharmacological modulation of the antinociceptive system may be facilitated by noxious stimulus. They showed that prolonged exposure to migraine but also to opioid treatments followed by an acute nociceptive stimulation caused long-lasting alterations in descending pain modulation. These data suggest a mechanism of migraine medications combined with repeated episodes of pain may amplify nociceptor activation and thus increase the preparation of future migraine attacks.

Jellestad PL, Carlsen LN, Westergaard ML, et al. Economic benefits of treating medication-overuse headache – results from the multicenter COMOESTAS project. *Cephalalgia* 2019;39:274–285.

Nation KM, Dodick DW, Navratilova E, Porreca F. Sustained exposure to acute migraine medications combined with repeated noxious stimulation dysregulates descending pain modulatory circuits: relevance to medication overuse headache. *Cephalalgia* 2019;39:617–625.

Viana M, Bottiroli S, Sances G, et al. Factors associated to chronic migraine with medication overuse: a cross-sectional study. *Cephalalgia* 2018;38:2045–2057.

One of the hallmarks of migraine is its cycling nature, in contrast to for example cluster headache or chronic tension type headache, where pain phases are fluctuating between on- and off. Recently several studies started focusing on this feature. Strupf et al. asked the question whether migraine phases are associated with changes in parameters of somatosensation and axon-reflex erythema. Patients with episodic migraine and chronic tension type headache were examined psychophysically in the interictal, preictal and ictal phase and healthy subjects on 5 different test days. They showed that electrical pain thresholds did not differ between headache patients and healthy subjects and showed no changes between the phases – a finding that needs to be confirmed. Also they found that a reduced habituation was the unique sign of the preictal phase in migraine patients, independently of prodromal symptoms. They suggested that inhibitory mechanisms in the preictal phase may be reduced and thus contribute to trigger headache attacks in migraine.

Does lumbar puncture improve IIH-associated headache?

Researchers show that sumatriptan activates TRPA1 channels

Strupf M, Fraunberger B, Messlinger K, Namer B. Cyclic changes in sensations to painful stimuli in migraine patients. *Cephalalgia* 2019;39:585–596.

Idiopathic intracranial hypertension (IIH), previously referred to as pseudotumor cerebri, is a headache condition with severe consequences, such as permanent visual loss due to chronic papilledema, if not treated properly. Treatment involves lowering the intracranial pressure, controlling headaches, and encouraging weight loss. Careful vision monitoring is essential. Lumbar puncture (LP) is an essential element in the diagnostic workup of IIH to prove the pathological increase in CSF pressure and to exclude secondary causes. Beyond that, it is occasionally used as a therapeutic tool as it is commonly assumed that it leads to an improvement of the IIH-associated headache and papilledema. But is this true? Yiangou et al. have addressed this question, and showed that despite the fact that the majority of IIH patients showed an improvement at some point during the first week after LP, the benefit was small and LP-induced headache exacerbations were common. In line with the current literature, the authors did not observe a positive correlation between CSF opening pressure and headache, nor any relationship between the post-LP headache response and papilledema grade, suggesting that the utility of repeated LPs is questionable. Acetazolamide is often used as a medication in these cases but again little data exist about other potential medications. Scotton et al. showed in an animal model that subcutaneous and oral administration of topiramate significantly lowers intracranial pressure. Other drugs tested, including acetazolamide, did not significantly reduce intracranial pressure. These results clearly ask for valid clinical trials evaluating the efficacy and side effects of topiramate in IIH patients. In intracranial hypotension on the other hand, several brain and spinal magnetic resonance imaging signs have been described but their correlations are not fully studied. A study by Wu et al. aimed to explore potential mechanisms underlying cerebral neuroimaging findings and suggested that there are two factors behind the brain neuroimaging findings in spontaneous intracranial hypotension – cerebral venous dilation and brain descent.

Scotton WJ, Botfield HF, Westgate CS, et al. Topiramate is more effective than acetazolamide at lowering intracranial pressure. *Cephalalgia* 2019;39:209–218.

Yiangou A, Mitchell J, Markey KA, et al. Therapeutic lumbar puncture for headache in idiopathic intracranial hypertension: minimal gain, is it worth the pain? *Cephalalgia* 2019;39:245–253.

Hoffmann J. The utility of the lumbar puncture in idiopathic intracranial hypertension. *Cephalalgia* 2019;39:171–172.

Wu J-W, Wang Y-F, Fuh J-L, et al. Correlations among brain and spinal MRI findings in spontaneous intracranial hypotension. *Cephalalgia* 2018;38:1998–2005.

Blake et al. showed in a retrospective pilot study in patients where one of the clinical hallmarks was chronic occipital headache with and without migrainous features, but also tenderness of neck muscles, occipital allodynia, and inadequate response to prophylactic drugs, that a surgical decompression of the greater and lesser occipital nerves provided significant and long-lasting (3–6 years) relief of persistent headache in some patients. The retrospective study was too small to test a hypothesis or determine cause and effect. However, the significant effect in some of these patients – previously refractory to other treatment approaches – supports the evaluation in prospective and randomised studies whether such decompression nerve surgeries are beneficial in the treatment of certain types of chronic headache.

Blake P, Nir R-R, Perry CJ, Burstein R. Tracking patients with chronic occipital headache after occipital nerve decompression surgery: a case series. *Cephalalgia* 2019;39:556–563.

The triptans have been on the market since 1991, with sumatriptan as the first representative. Since then it has been shown that sumatriptan has few side effects, but may burn at the site of injection. Patients also remarked that a sunburn may become more painful after

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**Three international
speakers joined
local experts in
Turkey to deliver a
teaching course on
childhood headache**

sumatriptan injection, and that the migraine pain first increases before it subsides. Somehow sumatriptan seems to excite peripheral nociceptors or increase sensitisation. The group around Karl Messlinger looked into this phenomenon and demonstrated that sumatriptan indeed activates TRPA1 channels inducing calcium inflow and membrane currents. It is very likely that this TRPA1-dependent activation of primary afferents explains the moderate but nevertheless curious painful side effects of sumatriptan.

Babes A, Neacsu C, Fischer MJ, Messlinger K. Sumatriptan activates TRPA1. *Cephalalgia Reports* 2019 <https://doi.org/10.1177/2515816319847155>

Several case reports have been published in *Cephalalgia Reports*, which is indeed one of our goals. Since *Cephalalgia* is a clinical neuroscience journal, at the same time we somewhat lack valid clinical papers such as case reports and series, clinical reviews, CME articles, etc. For this reason, the open-access sister journal *Cephalalgia Reports* has been launched and I am delighted to highlight the following publications in the last 12 months. The case by Chowdhury et al. in which the authors described how a SUNCT patient who was refractory to all preventive medications had a good relief from intravenous lidocaine is interesting for clinicians dealing with such patients, and also highlights an advantage of internet and open access publication: publishing cases as videos helps younger doctors and people new to the field to directly observe such exceptionally rare cases.

Chowdhury D, Duggal A, Koul A, Gupta A. Dramatic response of intravenous lidocaine in a patient with status like SUNA: a case report and brief review of literature. *Cephalalgia Reports* 2018 <https://doi.org/10.1177/2515816318804816>

Prakash S, Rathore C, Rana K, et al. A long-term prospective observational study in 31 patients with hemicrania continua. *Cephalalgia Reports* 2019 <https://doi.org/10.1177/2515816318824694>

Martins IP, Abreu L. Nummular headache: clinical features and treatment response in 24 new cases. *Cephalalgia Reports* 2018 <https://doi.org/10.1177/2515816318802771>

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1st Turkish Paediatric Headache Winter School, Mersin, Turkey 1–3 March 2019



Ishaq Abu-Arafeh

In partnership with the Turkish Neurology Association and the Turkish Association for Child and Adolescent Psychiatry, the IHS Child and Adolescent Standing Committee took part in the organisation and delivery of a teaching course on childhood headache in Mersin, Turkey. The 2-day course consisted of interactive workshops as well as traditional lectures on diverse topics relevant to the management of headache in children and adolescents. The course was delivered by an experienced faculty from Turkey and abroad. Many of the Turkish faculty members are well known members of IHS for their active research in headache.

Over 100 delegates attended, some travelling a long distance to hear the international and local faculty

Clinical workshops offered interactive participation to the delegates

Aynur Özge, Fevziye Toros, Füsün Erdoğan and Ishaq Abu-Arafeh from IHS designed the course to meet the educational needs in childhood headache for trainees in paediatrics, paediatric neurology and child and adolescent psychiatry, as well as established specialists. The course was attended by over 100 delegates from different clinical backgrounds and disciplines, some of whom travelled long distances from several parts of Turkey.

The teaching course was hosted at the splendid premises of the newly built Alzheimer Association Centre in Mersin. The contents of the course embraced the biopsychosocial model of headache in children with an equal input from headache specialists, paediatric neurologists and child psychiatrists. The overall message emphasised the holistic approach to assessment and management of headache disorders giving a comprehensive review of non-pharmacological management, medical treatment and psychological interventions.



Ishaq Abu-Arafeh

On day 1, the focus of the programme was on problem solving through a series of clinical workshops delivered in three groups. Each group was led by faculty members including an IHS representative, a local neurologist and a local child psychiatrist. The aims and learning objectives of each workshop were agreed upon in advance by all teaching teams in order to deliver a consistent message and to fulfil the course objectives. The small groups allowed active participation of delegates and ensured useful discussion. The main focus of the workshops was on making appropriate classification and diagnosis of the headache disorders as well as making a plan of management strategy. Cases of primary and secondary headache were chosen to illustrate the complexity of history taking, differential diagnosis and management issues.



Aynur Özge

On Day 2, we were treated to an opening ceremony with live music delivered by the Viola Class of Mersin University Conservatoire. The young musicians showed talent and enthusiasm that enthralled the audience and set a wonderful scene for the rest of the day.

The scientific programme consisted of thematic blocks of lectures covering topics on epidemiology, pathophysiology, headache impact on child and family, medical and psychological management of headache and headache comorbidities. There was a total of 14 lectures (20–30 minutes each) given by IHS representatives (Ishaq Abu-Arafeh, Prab Prabhakar and Vincenzo Guidetti) and local

The overall message emphasised the holistic approach to assessment and management of headache disorders giving a comprehensive review of non-pharmacological treatment, medical treatment and psychological interventions

experts including Füsün Erdođan, Hayrunnisa Bolay Belen, Burak Baykara, Fevziye Toros, Semih Ayta, Esmen Ekizođlu, Didem Öztop, Özlem Özcan and Aynur Özge. Instantaneous translation was professionally provided to and from English and Turkish and certificates of attendance were also issued.



Nevra Öksüz and Gülen Güler Aksu summed up the day and Ishaq Abu-Arafah gave a vote of thanks to the organising committee, the Alzheimer Association for hosting the event and particularly to Aynur Özge for her extraordinary efforts to make the course so successful. A special commendation was given to all attendants for their active participation.



Prab Prabhakar



Vincenzo Guidetti

We aimed to study patients with MRM to serve as a surrogate for predictable migraine

IHS Fellowship report



Kuan-Po Peng, Taiwan

Exploring the cycling biomarkers in migraine

Fellowship from March 2018 to March 2019

Institut für Systemische Neurowissenschaften, Universitätsklinikum Hamburg Eppendorf (UKE)

Mentor: Arne May

Overview

Migraine is a periodic disorder and accompanied with phasic sensory changes. Hypothalamo-thalamo-brainstem network may be the centre that drives the periodic changes. We aimed to study how objective sensory measurements change before a migraine attack and how these physiological changes correlate with functional imaging changes. It would be ideal if migraine attacks could be predicted; however, clinically, it is not easy or even possible. One feasible



alternative is to study patients with menstrual-related migraine (MRM). By definition, in patients with MRM, migraine will develop during the menstruation in more than two of three menstrual cycles, and MRM thus serves as a surrogate for predictable migraine. We aimed to enrol two cohorts: an MRM cohort and an age- and sex-matched healthy control cohort without a headache history. Both cohorts would undergo – on a daily basis – a series of physiological (quantitative sensory thresholds) and high-resolution brainstem echo-planar imaging towards their upcoming menstruation (-7 to +1 day). Sequential changes of activities over regions of interest would be further compared.

Summary of research

The first 3 months were spent becoming familiar with the lab settings and equipment, participating in the parallel projects from my group, and getting used to the language. Even though all members in my group speak good English, I still have to use German to communicate with the participants most of the time.

Several publications from our research have been submitted to international journals

I have learned to approach a clinical phenomenon from a pathophysiological point of view

The next 3 months were exploratory. We reviewed the topic extensively and finished the first draft of the review article. During this period, we recruited approximately 20 healthy participants, and tried different stimulus modalities and protocols, to find a workable setting to be used in the MRI. The ethics application was sent after we reached the final protocol.



Over the next 3 months we waited for the approval from the local ethics committee, and in the meantime we measured how thresholds change over time outside MRI in healthy participants. Due to the issue we encountered during the patient recruitment, that a large proportion of the participants used oral contraceptive pills which change the hormonal level significantly and may serve as a main confounder, we conducted another study and used the results to convince the institutional board that this issue can be solved by matching the pill use status between migraine patients and the healthy controls. The last 3 months we continued recruiting participants and conducting this study.

Outcome of research

We wrote a letter to the editor to raise the awareness of the phasic changes in threshold.; this letter has been published in the journal Pain.

We did a systemic review on the issue of threshold changes in migraine. This review article has been accepted by Pain with the title: Migraine understood as a phasic sensory threshold disease.

We investigated in healthy participants how the threshold changes over time in different sensory modalities including thermal, mechanical, and electrical. We also tested different stimulus protocol and established a suitable one applicable in the MRI.

Due to the issue we encountered during the participant recruitment, we did another clinical research study to investigate the effects of oral contraceptive use on migraine symptomatology. This study is completed and has been submitted to Cephalalgia Reports.

I took part in a parallel project on how the sensory threshold changes after the induction of secondary hyperalgesia using different stimulus methods including electrical stimulation, thermal, and topical capsaicin.

Practical lessons learned

The applicability of the stimulus equipment needs to be tested. We initially intended to use a thermal stimulation in MRI. After testing several subjects, we realized the stability of a thermal stimulation with an on-the-threshold intensity is poor. Therefore, we switched to electrical stimulation in the end and changed the stimulus protocol.

The recruitment of participants is also challenging, since we targeted a specific subgroup of migraine patients.

The IHS fellowship will be a highlight in my resume when I apply for future grants and continue my headache research



Universitätsklinikum Hamburg Eppendorf (UKE)

One-year in a foreign country is relatively short, especially when you need to deal with the bureaucracy and settling down in the first few weeks to months. I would recommend, specifically for a 1-year project, to find a topic with the techniques and resources that are readily available in the lab. That saves lots of time. The mentor is of vital importance. Fortunately, my mentor and the working group have been very supportive throughout the time. Last, I would recommend the application of a 2-year fellowship when one wishes to complete a larger project.

Conclusion

I trained as a clinician and most of my previous research experience was purely clinical. Even though my mentor is a Professor in Neurology, he is more of a clinician-scientist. I have been exposed to an environment in which the pathophysiology of migraine is investigated from a different angle. I have learned to approach a clinical phenomenon from a pathophysiological point of view, to design a study to explore the unanswered questions, to actually conduct a physiological/imaging study, and to overcome the challenges encountered during the process. Of course, I have also become familiar with several techniques and learned the niches pertinent to the quantitative sensory test.

The IHS fellowship will definitely be a highlight in my resume when I apply for grants in the future and continue my headache research.



IHC
2019

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Bringing together colleagues in the field of headache medicine, to learn about the latest advances in headache treatment and share knowledge with our colleagues from around the world

KEY DATES

Abstract submission opens – **26 September 2018**

Abstract submission deadline – **27 March 2019**

Early bird registration deadline – **19 June 2019**

Late breaking abstract submission – **July 2019**





Calendar of events

2019

5–8 September	19th Congress of the International Headache Society (IHC)	Dublin, Ireland	www.ihc2019.com/
17–21 September	13th European Paediatric Neurology Society (EPNS) Congress	Athens, Greece	www.epns2019.org/
23–25 October	4th Congress of the Swiss Federation of Clinical Neuro-Societies (SFCNS)	Lausanne, Switzerland	www.sfcns2019.congress-imk.ch/
25 October	OHBM Alpine Chapter Symposium - Organization for Human Brain Mapping	Lausanne, Switzerland	www.sfcns2019.congress-imk.ch/frontend/index.php?folder_id=1127
26 October	SFCNS Imaging Course - Swiss Federation of Clinical Neuro-Societies	Lausanne, Switzerland	www.sfcns2019.congress-imk.ch/frontend/index.php?folder_id=1114
26–31 October	XXIV World Congress of Neurology	Dubai, UAE	www.wfneurology.org/world-congress-of-neurology-2019
22–24 November	ANZHS Headache Scientific Meeting	Albert Park, Victoria, Australia	www.ewmevents.com.au/headachesociety/registration/Site/Register
28–30 November	Secondary Headaches School	Warsaw, Poland	www.headacheschool.pl/

2020

4–7 June	62nd Annual AHS Scientific Meeting	San Diego, USA	www.americanheadachesociety.org/
26–29 June	14th World Congress on Controversies in Neurology (CONy)	London, UK	www.cony.comtecmed.com/
3–5 July	14th European Headache Federation Congress	Berlin, Germany	www.ehf2020.com/
10–13 September	18th Migraine Trust International Symposium	London, UK	www.mtis2020.org/

If you would like IHS to include your meeting on the IHS website and newsletter please contact **Carol Taylor** with the details

New Open Access companion journal for Cephalalgia

Cephalalgia Reports: A fully Open Access Journal

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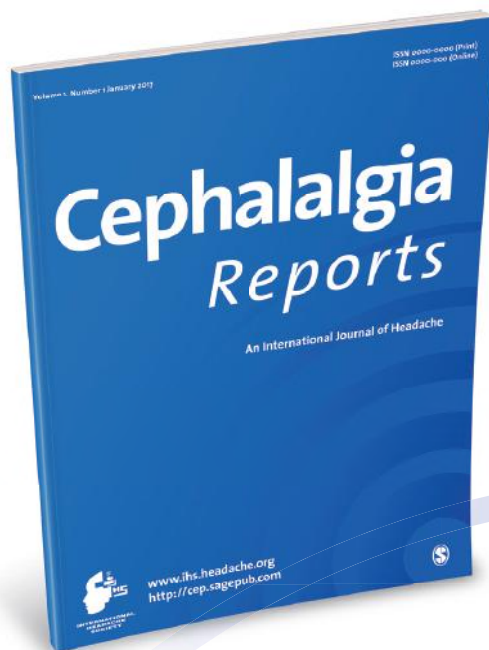
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