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Results Of the 136 patients recruited so far, 44 completed the diaries during three consecutive auras for a cumulative number of 132 auras recorded. Of the remaining 92 patients, 21 dropped-out and 71 have not completed three aura attacks. Visual symptoms lasted for more than one hour in 21 out of 129 auras (16%), somatosensory symptoms in 9 out of 47 auras (19%), dysphasic symptoms in 3 out of 15 auras (20%). Six patients out of 44 experienced the same aura symptoms lasting for more than one hour in one attack and for less than one hour in another attack out the three.

Conclusions Our preliminary data suggest the duration of single symptoms of NHMA may be longer than one hour in a significant proportion of migraineurs, and that the one-hour limit needs review.

References
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Tension-type headache and tongue habits

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Introduction This research is based on clinical observation of the lingual habits in people with tension-type headache (TTH). This was conducted in 159 patients, 55 healthy and 104 with TTH, diagnosed according to the ICHDIII-β criteria. The principal aim of this research was to investigate a correlation between TTH and swallowing dysfunction, highlighting the potential of perform the myofunctional therapy on tongue for those who suffer from this disease.

Methods The sample had been selected at the Headache Center of Policlinico Umberto I of Rome. Criterion of eligibility for the group of cases was to suffer from TTH, on the other hand the control group had to have less than one attack per month, with Visual Analogue Scale (VAS) value never greater than 5 and have never asked for help to a Headache Center or to a family physician for problems related to headaches. For both groups, the age was between 16 and 65 years. To evaluate the deglutition we examined rest tongue position, crenated tongue, gritted teeth and open lips, test with fluorescein performed with Payne's technique.

Results With the Wilcoxon-Mann-Whitney test we showed that there is a difference between the healthy and TTH's group, given by the presence of swallowing dysfunction. The Pearson's Chi-square confirmed the relationship between headache and swallowing. The Probit model was then used to estimate the probability of finding swallowing dysfunction in the general population of patients with TTH. The results showed that there is a significant difference between the two groups for the parameter of swallowing and swallowing dysfunction positively correlated with the presence of TTH, with p-value <0.001. It also had a predictive value of finding such a relationship in the general population of TTH, with a predictive accuracy of 88%.

Conclusions The dysfunctional deglutition may represent a new area to be explored to study the underlying mechanisms of TTH. The myofunctional therapy of the tongue could represent a new way of intervention. In fact, the presence of deglutition dysfunction in patients with tension-type headache is significative compared with the percentage observed in healthy subjects (99% vs 34%). These results appear very interesting and appealing. The dysfunction of deglutition appears from our study closely related with tension-type headache.

Evaluation of proteomic profile in menstrually-related migraine

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Introduction Approximately 50% of women suffering from migraine have attacks in at least 2/3 of the menstrual cycles. The attacks are of longer duration, more severe and resistant to treatment and tend to recur more than non-menstrual attacks. The mechanisms underlying this disorder, classified as "menstrual related migraine" (ICHD-3beta, Appendix, A1.1.2), have not been completely elucidated. In some women, menstrual migraine attack appears to be associated with estrogen withdrawal. However, for this disorder, so frequent and disabling, there are no specific therapies of high effectiveness. Therefore, further studies are needed to identify potential biomarkers and therapeutic targets. The aim of this pilot study was to evaluate/characterize blood and urine proteomic profile of female suffer from menstrually related migraine.

Materials and methods Up to now, twenty women (mean age 35 ± 5 years) with menstrually related migraine and ten women, 35 ± 5 years) with menstrually related migraine and ten as controls (mean age 29 ± 2 years), were recruited. Serum and urine samples were collected for proteomic analysis. Morning urine samples were centrifuged, to remove cell debris, and then concentrated and desalted using 5kDa filter devices. Venous blood samples were centrifuged after clotting to obtain serum samples that underwent fractioning by SDS-PAGE gel electrophoresis. Colloidal Coomassie staining was p

med to reveal protein bands that were imaged by PDQuest software. Protein bands were excised from the gel and digested by tripsin. After digestion, peptides were analysed by LC-MS/MS on a Q-TOF mass spectrometer and protein identified using MASCOT software.

Results and discussion The serum and urine proteomic profiles of menstrual migraine patients and control subjects, obtained by mono-dimensional gel electrophoresis, were compared and protein identified. The most relevant differences in the intensity of the protein bands were observed in the middle-low molecular weight (range 40-10 kDa) both for urine and serum samples. In particular, in urine samples all patients showed more intense protein bands (at 25 and 35 kDa respectively) than controls.

Conclusions The proteomic analysis performed in this pilot study might be useful to reveal differences in proteomic profile of menstrually related migraine women and discover proteins related to the disorder. However, due to the great number of protein identified, further analyses are needed to better understand the protein expression differences.

Development of an optimization model to plan and manage a Headache Day Service

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Introduction Inpatient admission for primary headache is inappropriate in the Italian National Health System and therefore not reimbursed by the National Health Fund; however, especially in comorbid and chronic cases, headache assessment and therapy require a multidisciplinary team and many clinical and instrumental interventions rarely available outside a hospital setting. Day Service is, alongside full inpatient and day hospital admission, a relatively recent possibility of supplying a complex set of healthcare interventions for a specific pathology, using a co-paid package of scheduled and time limited hospital accesses thus avoiding admission costs and reducing the time patients spend at the hospital. A 30 days Headache Day Service is used in our Headache Centre. Provided interventions include: neurological and pharmacological assessment, disability assessment, psychological testing and evaluation, pain screening tools, electrophysiological examinations, radiological examinations and prescriptions. Organising the Day Service requires high level clinical and management coordination. Purpose of this study is to develop an optimisation method for planning and managing the Headache Day Service to improve access, patients flow, and carrying out of diagnostic and therapeutic procedures.

Materials and methods Outpatient clinical records of headache patients referred to the Headache Day Service were reviewed and data about number of patients, headache severity, prescribed interventions, hospital accesses and time needed to complete each patient's diagnostic and therapeutic path were retrieved; prevalent patterns of patients access to the Day Service in terms of monthly schedule and waiting list were identified and they were optimised through a computational model aimed at maximising the amount of patients accessing the day service and minimising each patient's accesses to only needed interventions.

Results The output of the computational model shows a decreased number of hospital accesses for each patient and an increased number of patients accessing the headache day service in a monthly time span.

Discussion and conclusions Optimising the scheduling of a Headache Day Service through a computational model can provide an improvement in terms of accessibility to care in a limited period, shortening of day service waiting lists and reduction of hospital accesses for headache patients, benefitting patients' quality of life and health care costs and organization.

Patient features in chronic migraine with medication overuse

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Introduction Medication-overuse headache (MOH) patients are often treated in tertiary level headache clinics where multidisciplinary assessment and care are provided; while treatment is usually outpatient, inpatient admission may be required to control withdrawal symptoms. The cause of medication abuse is unknown: serotonin uptake and concentration, central sensitisation by repetitive antinociceptive activation, lack of impulse control by orbitalfrontal cortex hypoactivation and psychological aspects such as psychopathological and abuse comorbidity, cognitive features and personality traits are believed to play a role in MOH onset; purposes of this study are obtaining preliminary data to evaluate MOH prevalence among patients accessing to our headache centre, identifying MOH patients features in terms of medication usage, comorbidity, psychological aspects and level of disability.