AARHUS UNIVERSITY

Press release

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Basic information

Name: Pankaj Taneja Email: pantaneja@dent.au.dk Phone: +45 8716 7400

Department of: Dentistry

Main supervisor: Lene Baad-Hansen

Title of dissertation: "Multisensory integration of orofacial stimuli with possible implications for orofacial pain"

Date for defence: 7th May at (time of day): 10:30 Place: Zoom (on-line)

Press release (Danish)
PhD Forsvar

Projektet er gennemført af Pankaj Taneja, der forsvarer det d. 07/05.

Smerter i mund og ansigt ses hos op til en fjerdedel af befolkningen. Det kan medføre svær påvirkning af en persons livskvalitet. Når man undersøger en patient med sådanne smerter, fokuseres der ofte på hvor følsom personen er overfor smerter. Følsomhed overfor ubehag og behag undersøges kun sjældent men kan potentielt have betydning for en mere udførlig diagnostik.
Dette er vigtig, fordi man har opdaget en særlig nervefiber i menneskers hud, som kaldes C-Tactile (CT) afferent. Denne nervefiber kan registrere langsomme strygende berøringer, som af de fleste mennesker opfattes som værende behagelige. Ydermere er det også sjældent at følelse af ubehag vurderes separate fra vurdering af smerte, selvom en patient kan opleve ubehag uden samtidig at opleve smerte. Projektet er gennemført af Pankaj Taneja, der forsvarer det d. 07/05.

I dette ph.d. project har vi vurderet litteraturen mhp. at identificere en ideel standardiseret måde at frembringe behag. Efterfølgende anvendte vi etablerede protokoller til at teste nervefunktion og modificerede disse mhp. at inkludere tests af CT fibrer samt følelse af ubehag og behag. Resultaterne viste, at dette var muligt og at de same stimulationer kunne medføre en følelse af mere end en perception ad gangen. F.eks. kunne vise stimulationer være bade behagelige og ubehagelige på same tid. Det blev også vist, at de nye tests var af tilstrækkelig troværdighed. Endelig blev det vist, at stimulationer som oplevedes hhv. smertefulde, behagelige eller ubehagelige kunne ændre en underliggende eksperimentel smerte i tyggemuskel eller ansigtshud.
Det er håbet, at denne forskning kan være med til at fremme en mere raffineret vurdering af nervefunktion ved at tilføje vurdering af følsomhed for behag og ubehag. Ligeledes kan studiernes resultater have implikationer for opfindelsen af nye behandlingsstrategier.Pressemeddelelsen - afsluttes med: Forsvaret af ph.d.-projektet er offentligt og finder sted den 07/05 online via Zoom. Titlen på projektet er "Multisensory integration of orofacial stimuli with possible implications for orofacial pain". Yderligere oplysninger: Ph.d.-studerende Pankaj Taneja, e-mail: pantaneja@dent.au.dk, tlf. +45 8716 7400.

Bedømmelsesudvalg:

India Morrison, Senior lecturer
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Chairman of the committee and moderator of the public defence
Rubens Spin-Neto, DDS, PhD
Associate Professor
Section of Oral Radiology
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Aarhus University, Denmarpåfør de tre medlemmer af udvalget med navn, titel og arbejdssted

Press release (English)
PhD defence

Pain affecting the mouth and face has been reported in about a quarter of the adult population. This can be a significant burden on a person's daily life. When it comes to investigating such conditions, we tend to focus on applying different stimuli and asking about responses of pain. The sensations of pleasantness and unpleasantness are rarely taken into account. This is important because of the discovery of a certain nerve fibre that is found in the hairy skin of humans, the C-Tactile (CT) afferent. These fibres respond to a slow moving, non-harmful touch, which has linked them to a pleasant sensation. Furthermore, the perception of unpleasantness is also rarely assessed; and this is a sensation that is not only limited to a painful experience. The project was carried out by Pankaj Taneja, who is defending his dissertation on 07/05.

Within the PhD project we evaluated the literature to identify the ideal stimulus to cause a pleasant sensation. We then took an established method of testing nerve fibre function and modified it to include the CT afferent, as well as to get responses of pleasantness and unpleasantness. The results indicated that this was possible and that the same stimuli were able cause participants to feel more than one perception. In addition, the newly developed protocols were found to be reliable to use to investigate such perceptions. The studies then identified stimuli with targeted perceptions of pleasantness, unpleasantness and pain, which were used and found to modulate two types of experimental facial pain.
It is hoped that the research can provide a more refined evaluation of nerve fibre function, by including the perceptions of pleasantness and unpleasantness, as well as provide for novel pain management strategies.
The defence is public and takes place on 07/05 at 10:30 on-line via Zoom. The title of the project is "Multisensory integration of orofacial stimuli with possible implications for orofacial pain".
For more information, please contact PhD student Pankaj Taneja, email: pantaneja@dent.au.dk, Phone +45 8716 7400.

Assessment committee:
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