

Kranijalne neuralgije

*Prof dr med sci Renata Hodžić
Medicinski fakultet
Univerzitet u Tuzli*

Različiti aspekti bola, Tuzla, 16.06.2021.

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Definicija

➤ Oboljenja perifernih živaca praćena paroksizmalnim bolom

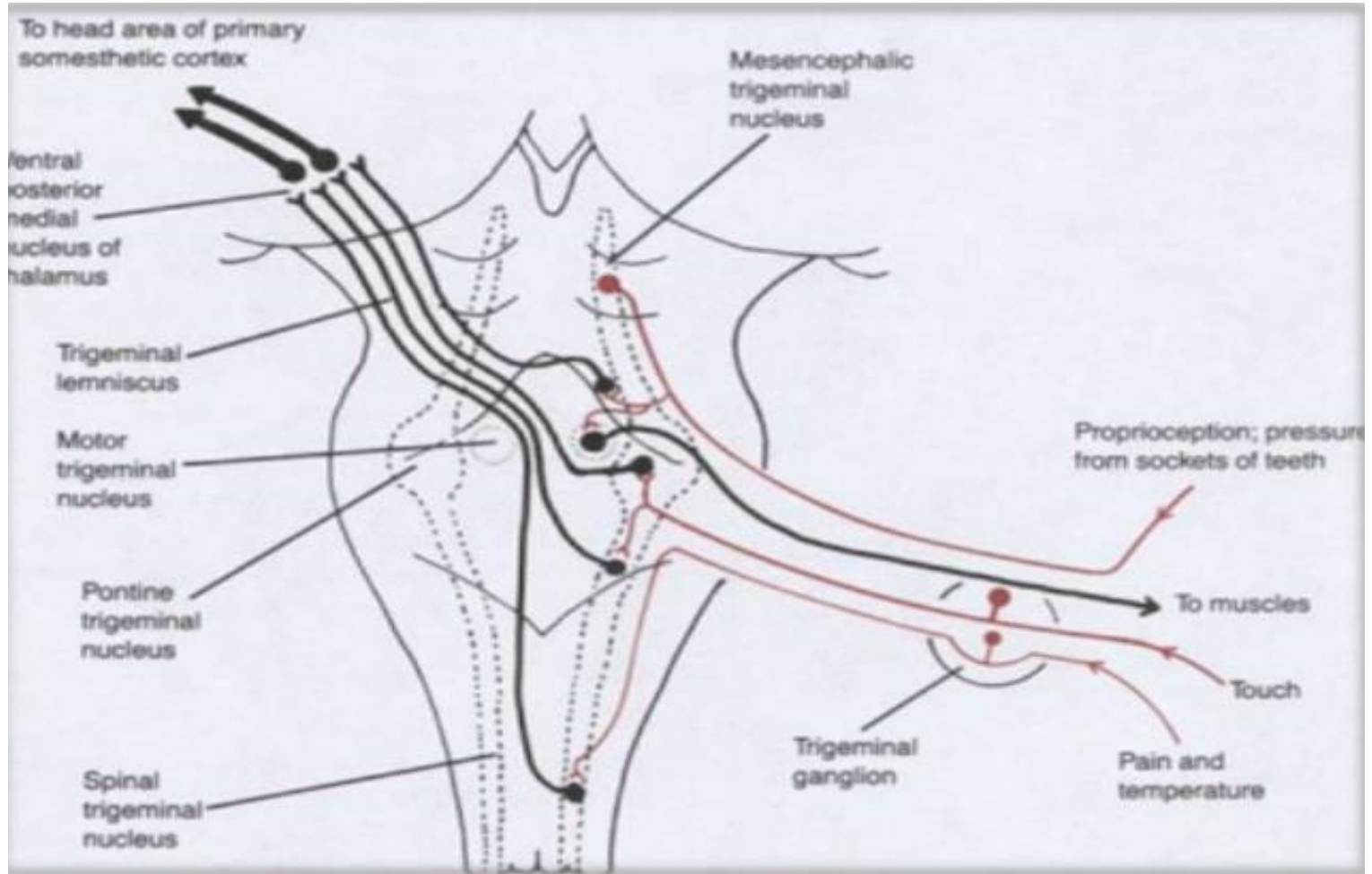
➤ Bez anatomskih promjena

➤ Dominantno mjesto:
trigeminalna neuralgija

➤ Mnogo rjeđe:
glosofaringealna, neuralgija intermediusa i okcipitalna N



Kompleksni putevi n.trigeminusa...

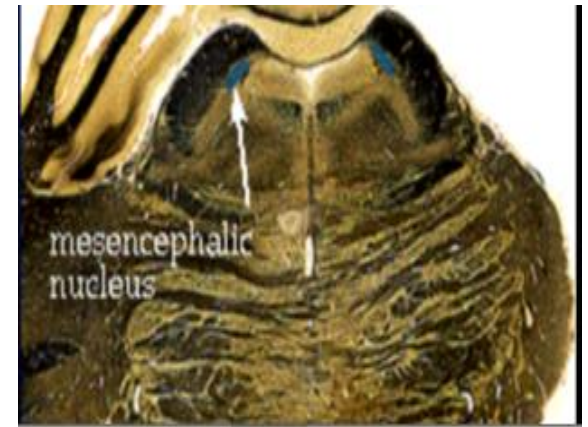
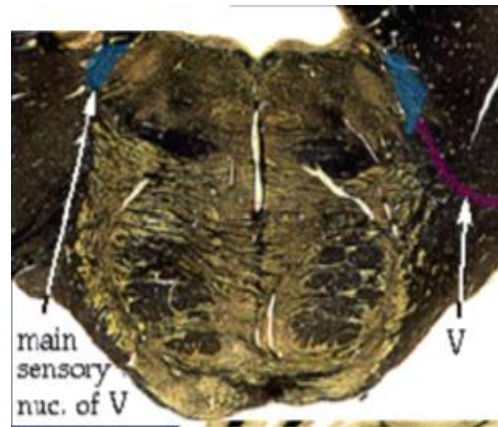
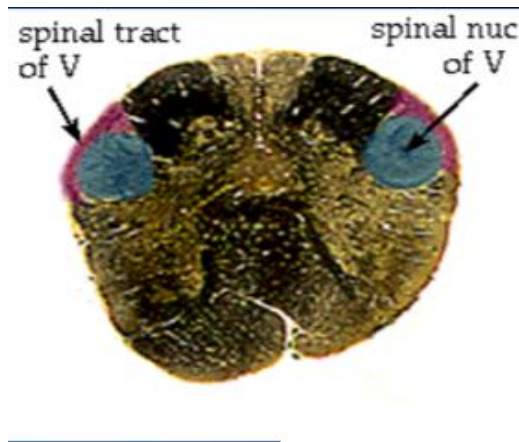


Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Senzorna jedra trigeminalnog živca

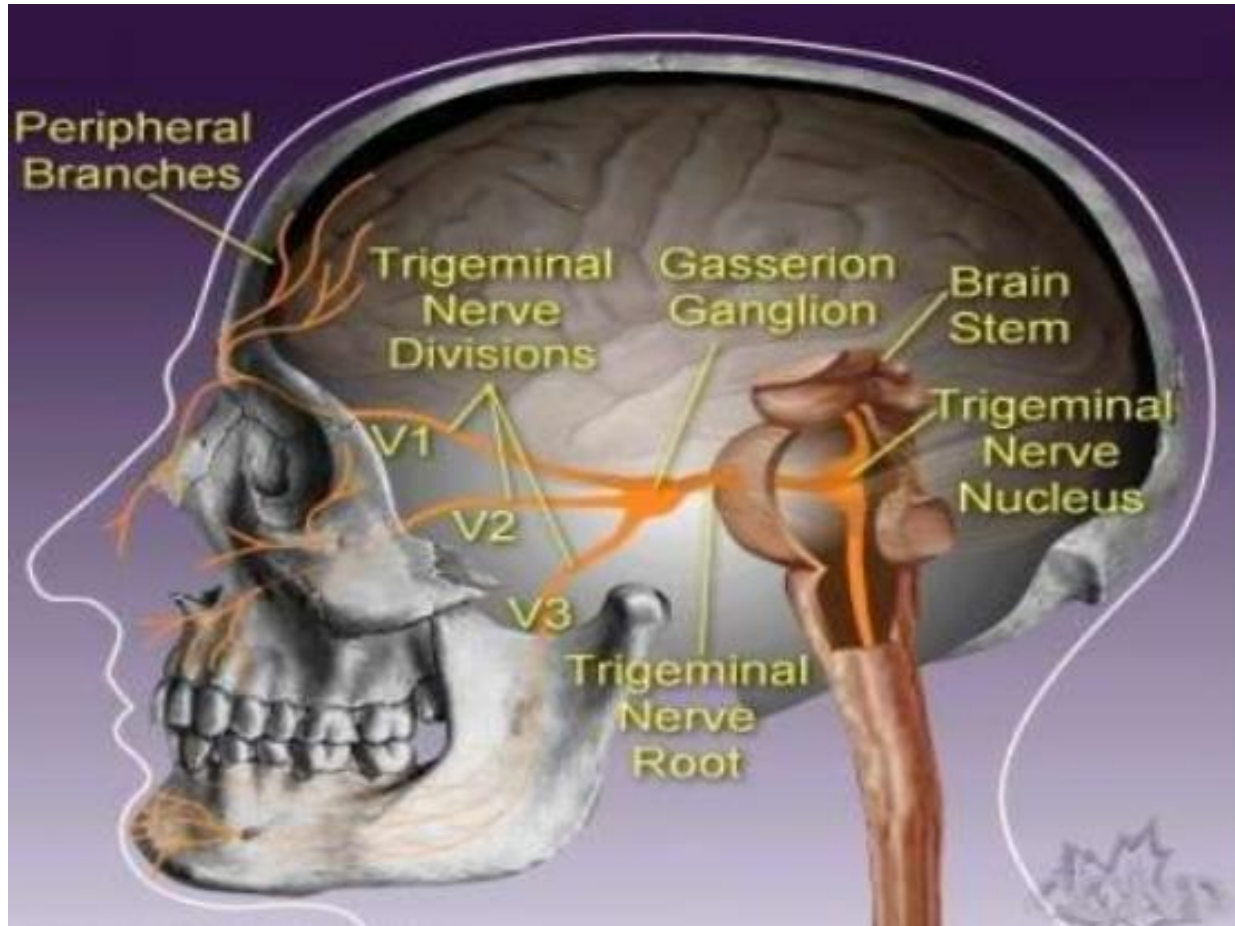
- Spinalno jedro: bol i temperaturu, laki dodir
- Pontino trigeminalno: taktilnu diskriminaciju
- Mezencefalično: proprioceptivni, vibratorni



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Anatomija

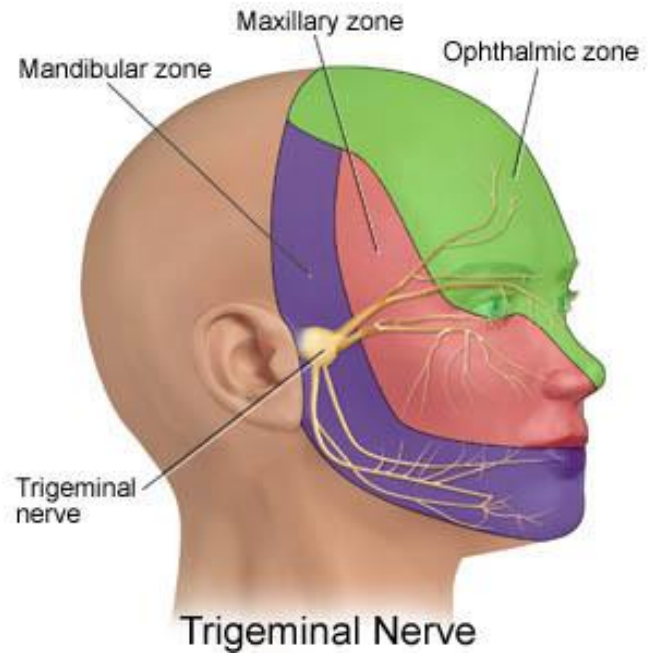


Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

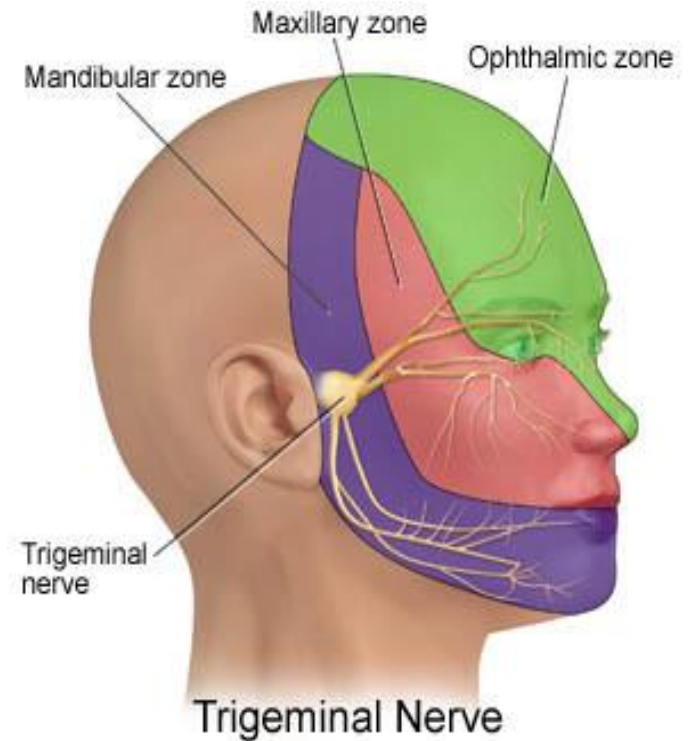
Anatomija - nervus ophtalmicus

- Kožu lica i kosmatog dijela glave između linije koja spaja oba oka, preko tjemena i donje linije koja ide prednje gornjom ivicom temporalnog predjela do spoljašnjeg očnog ugla, ivicom donjeg kapka do korijena nosa.
- Inerviše i usku zonu nosnog grebena, korneu, konjunktivu, iris, sluznicu frontalnog sinusa i svoda nosne duplje.



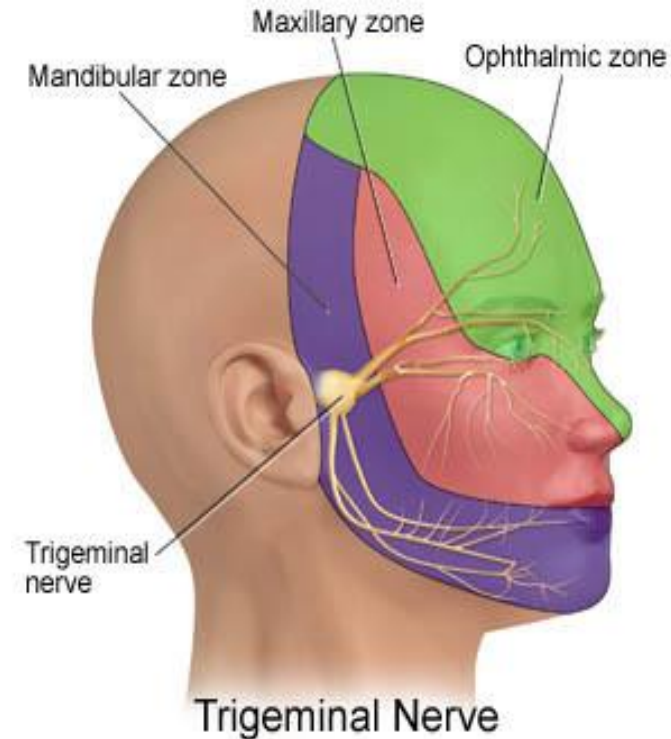
Anatomija – nervus maxillaris

- Kožu lica između donje linije za inervaciju n.ophtalmicusa i linije koja ide od ugla usana prema temporalnom predjelu (bočna strana nosa, obraz, dio sljepoočnog predjela).
- Dio sluznice nosa, maksilarnog sinusa, gornju vilicu i zube gornje vilice, tvrdo i dijelom meko nepce, gornju usnu.



Anatomija – nervus mandibularis

- Kožu lica između dvije linije inervacione grane n.maxillarisa i linije koja djelomično prati ivicu mandibule.
- Gornju polovinu ušne školjke, tragus, spoljni ušni kanal, m. tympani, dio sljepoočnice i sluznice obraza, poda usta, prednje 2/3 jezika, zube donje vilice, donju usnu.



Trigeminalna neuralgija

“ as it were a flash of fire all of a sudden shot into all those parts which made her shreeke out...”



Letter to a friend by John Locke

December 4, 1677

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Povijesni podaci

- Aretaeus of Cappadocchia – krajem 1st klinički opis
- 1677g – John Locke prvi opis sa terapijom
- 1756g – Nicholas Andre - „tic douloureux”, „cynical spasm”
- 1773g – John Forthergill – „Forthergill’s disease”
- 1829g – Charles Bell – prvi opis n.trigeminusa
- 1853g – Trousseau – „neuralgia epileptiform”
- 1942g – Bergouignan – Phenytoin
- 1962g – Bolim- Carbamazepine
- 1934g - Dandy – Vaskularna kompresija na živac

Definicija trigeminalne neuralgije

Paroksizmalna pojava jake, oštre i kratkotrajne boli u inervacionom području trigeminalnog živca.

Jedna od najjačih neuropatskih boli

“Pain is temporary. Quitting lasts forever” ... Lance Armstrong

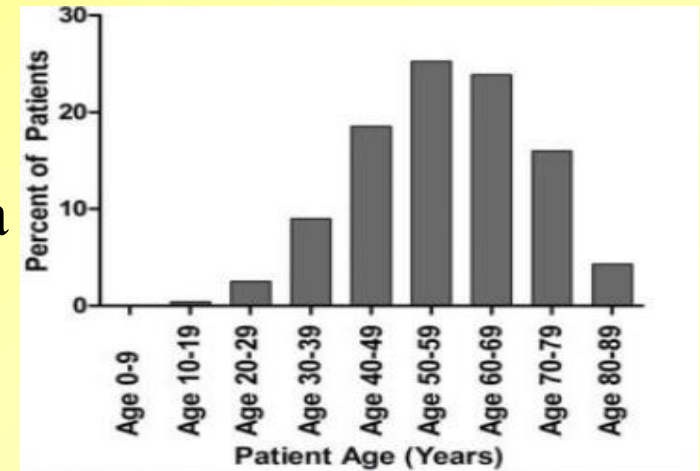


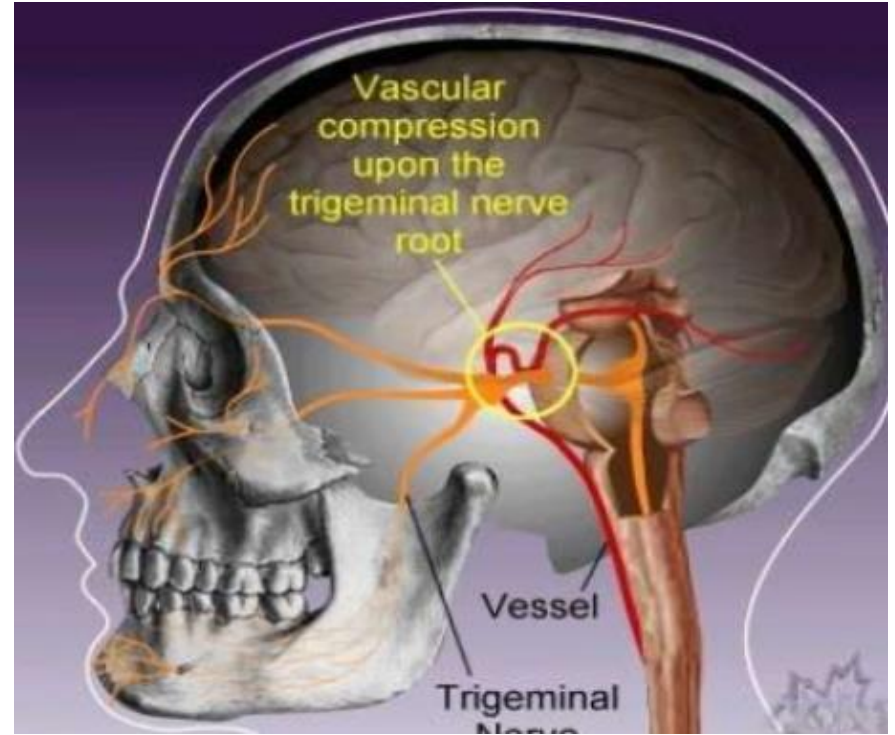
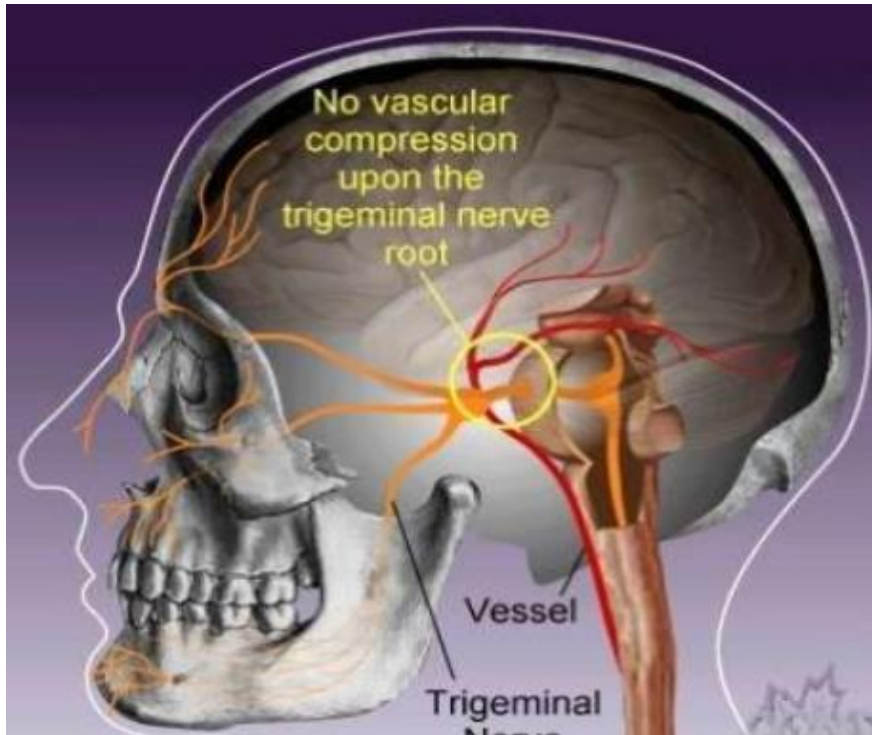
Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Epidemiologija trigeminalne neuralgije

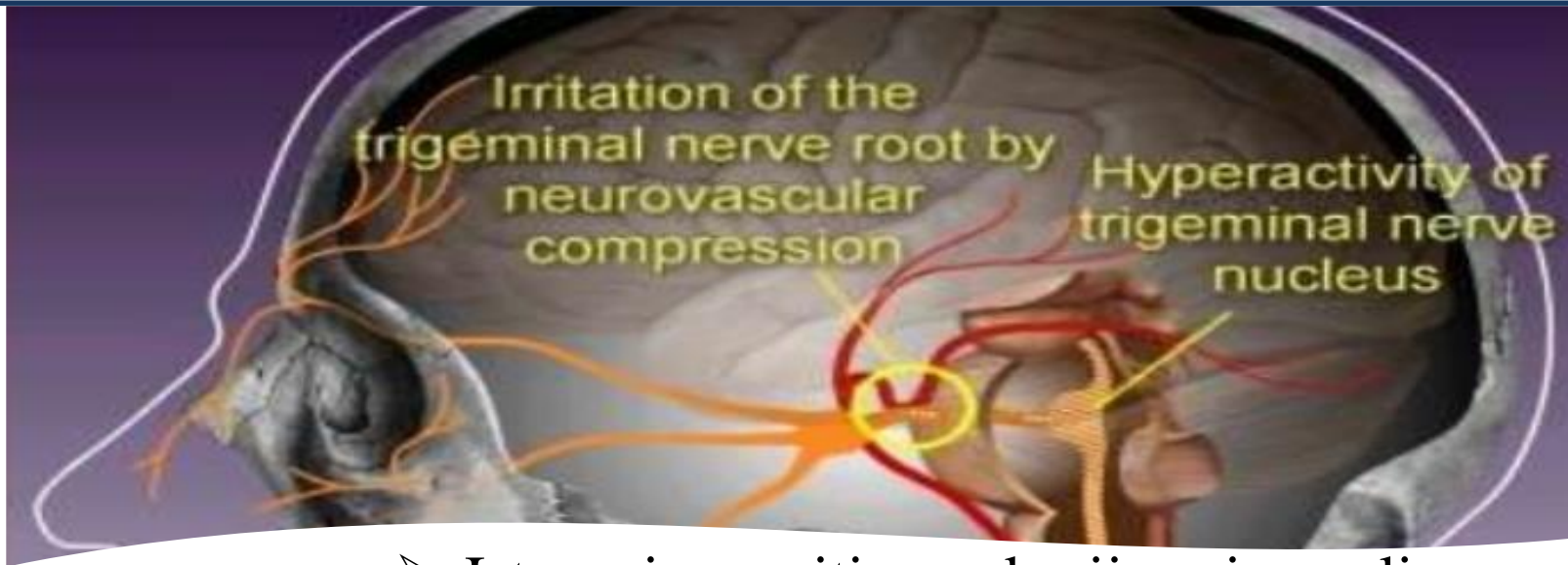
- 4-13 osoba/100.000 stanovnika.
- Ž 2x češće; osobe iznad 50 god života
- Češće na desnoj strani (56%)
- Maksilarna (V2) > Mandibularna (V3) > Oftalmička (V1)
- Nadimak „suicidalna bol” – 3 god 50% pokušaja samoubojstva





Etiologija trigeminalne neuralgije

- Klasična i simptomatska
- Klasična: idiopatske i uzrokovane vaskularnim poremećajima.
- Sekundarne: ekstra i intrakranijalni kompresija ili oštećenja živca tumori, trauma, infekcija.



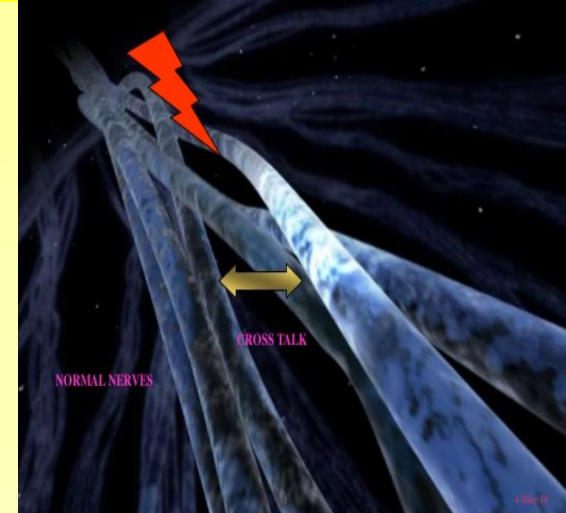
Trigeminalna neuralgija - etiologija

- Istezanje senzitivnog korijena i gangliona
- Pritisak dure na korijen živca ili ganglion - mehanički nadražaj!
- MS: paroksizmi, žarište demijelinizacije zahvati korijen na mjestu ulaska u pons.
- Neprestano pomicanje korijena živca: pokreti glave, pulzacija art i promjene pritiska likvora
- Skup mikrotrauma koje uz istezanje i pritisak mogu stvoriti napade bolova.

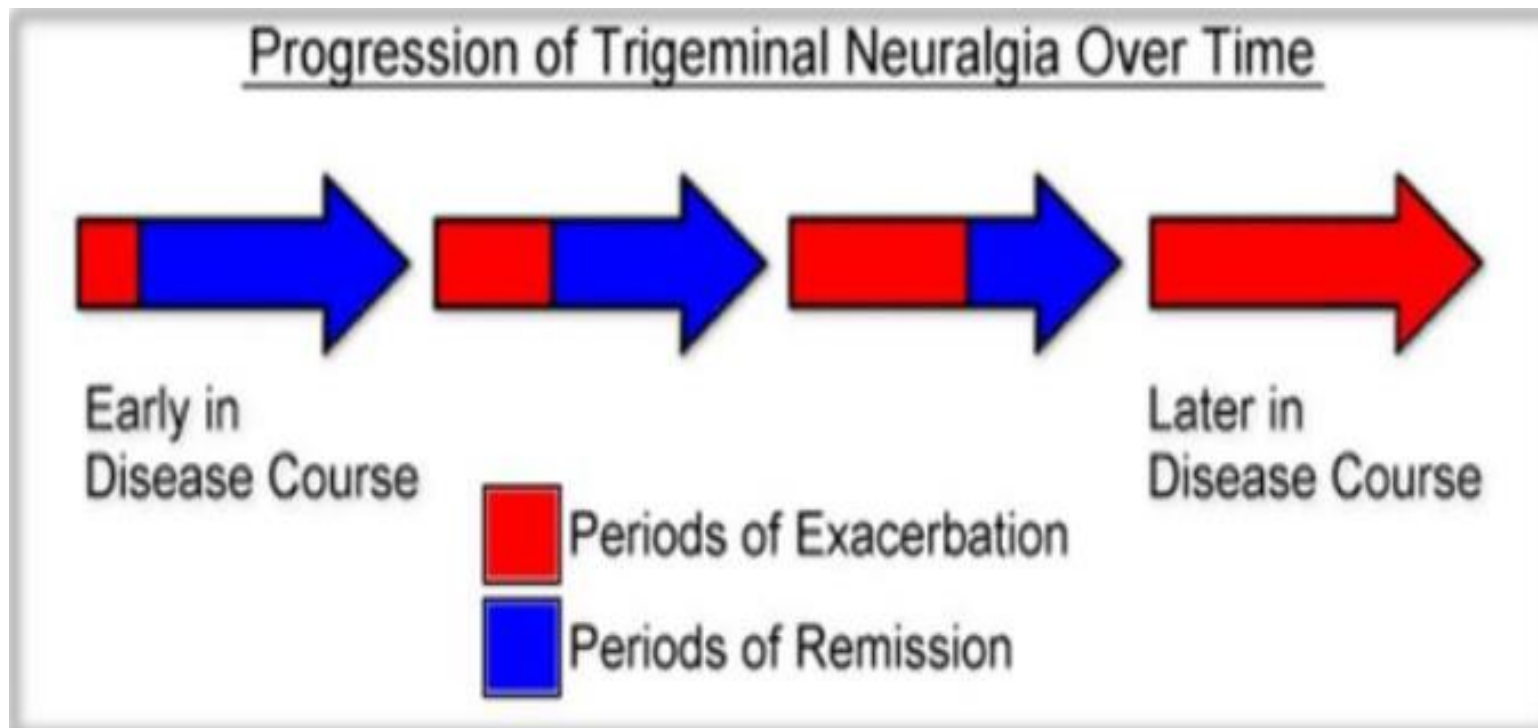
Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Klinička slika trigeminalne neuralgije

- paroksizmalna unilateralna jaka bol
- od nekoliko sek do 2 min
- može se ponavljati više puta dnevno
- umivanje, šminkanje, brijanje, govor, žvakanje
- bolovi rjeđi noću
- udar strujom ili nožem
- bolna grimasa („bolni tik“)
- remisije i egzacerbacije
- trifacijalna neuralgija



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Dijagnoza trigeminalne neuralgije

- Klinička slika
- Neurološki pregled
(oštećenje senzibiliteta ili ugašen kornealni refleks van napada bola – simptomatska neuralgija)
- Neuroradiološka obrada

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Ispitivanje funkcije N. trigemini

- Pregled senzibiliteta lica (zatvorenih očiju)
 - Ispitivanje osjećaja dodira
 - Ispitivanje osjećaja bola
 - Ispitivanje osjećaja temperature
- Kornealni i konjunktivalni refleksi
 - Refleksni luk:
 - *n. ophtalmicus*
 - *nuclei pontis*
 - *n. facialis*
 - *m. orbicularis oculi*
- Refleks masevera

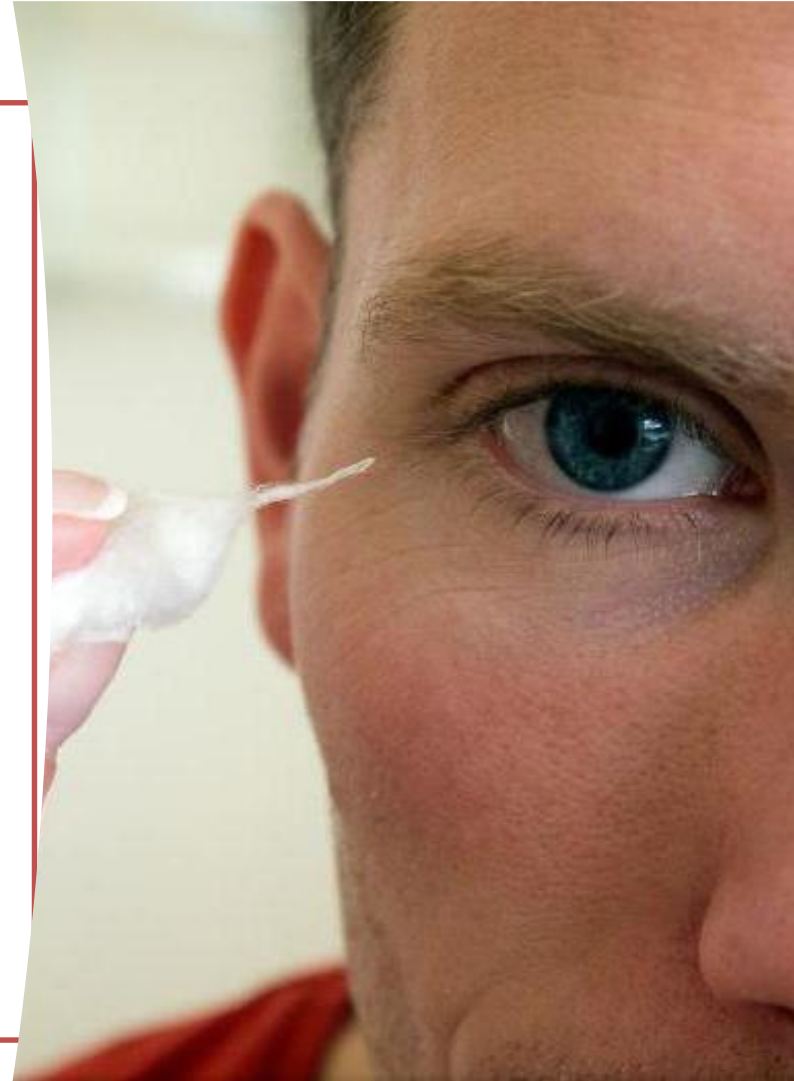


Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

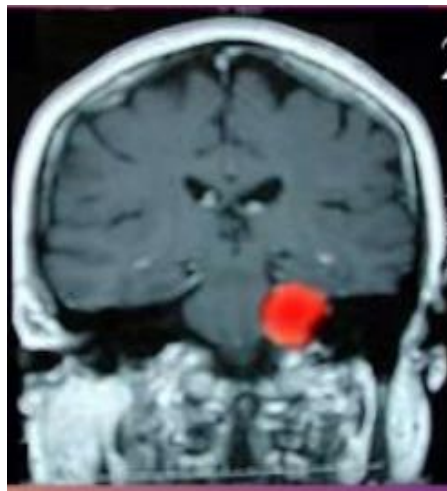
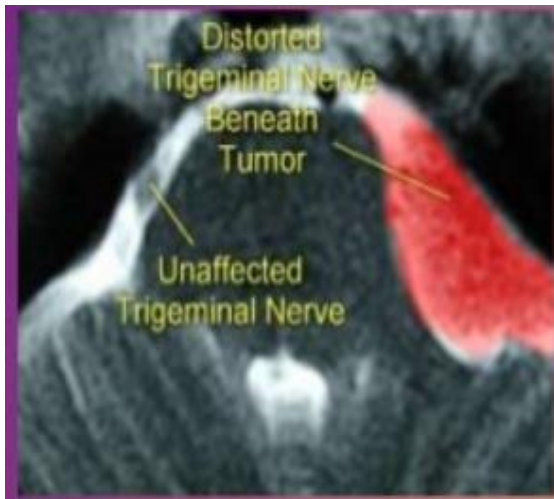
Korneokonjuktivalni refleks

- korneu dodirujemo parčetom vrha zašiljene vate.
- izbjegli obrambeni refleks treptanja.
- dolazi do žmirkanja (obostrano treptanje).
- Aferentni neuron je n.ophtalmicus, centar je u ponsu, eferentni neuron je n.facialis m.orbicularis oculi.
- Pri oštećenju refleksnog luka na bilo kom nivou refleks će izostati.



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"



MRI, MR mozga

927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Terapija trigeminalne neuralgije

- Ekstrakcije zuba, pročišćavanja, pčelinji otrov, vrele kupke, odmor u mračnoj sobi, konzumiranje vina
- Medicinska terapija: od žive do okskarbazepin
- Kemoneuroлиза
- Radioterapija
- Perkutane ablativne procedure
- Stereotaksijska radiokirurgija
- Cyber nož

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Farmakoterapija

- ❖ Anticonvulsants
- ❖ Muscle relaxants
- ❖ Anti depressants
- ❖ Topical agents

First generation:

- Phenytoin
- Carbamazepine
- Valproate
- Baclofen
- Amitriptyline
- Nortriptyline

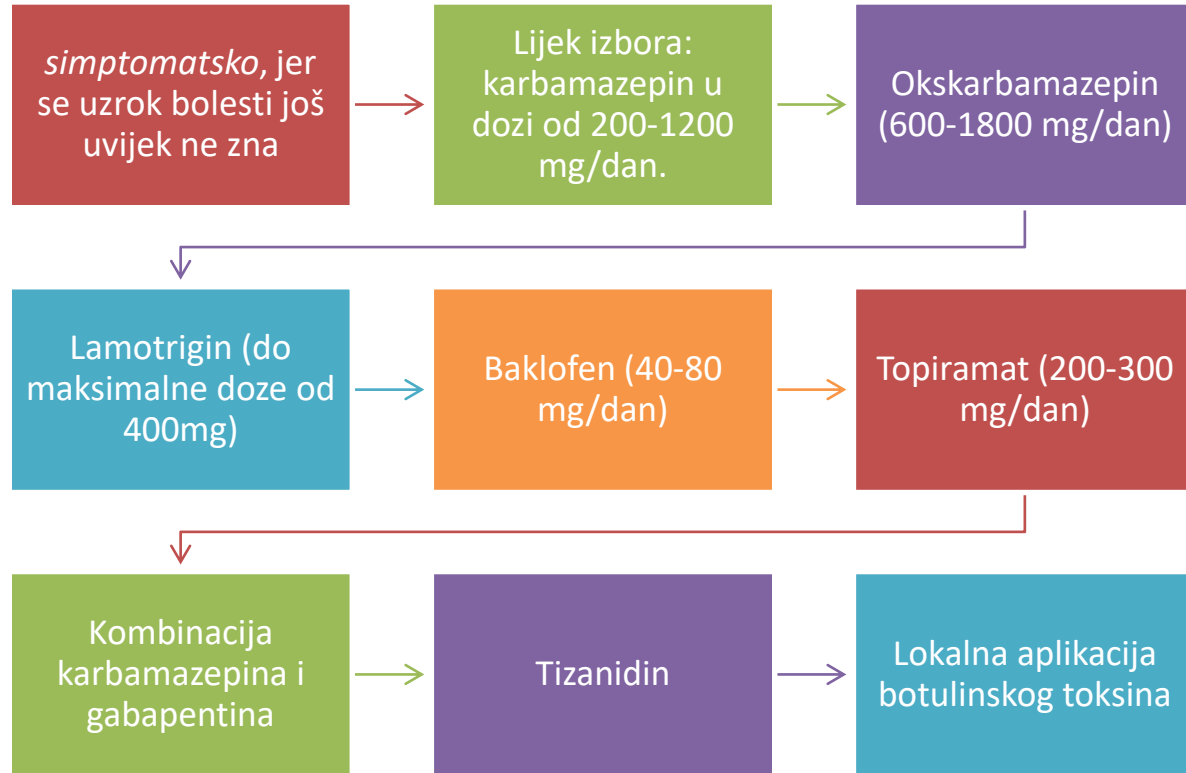
Second generation:

- Gabapentin
- Oxcarbazepine
- Lamotrigine
- Zonisamide
- Topiramate
- Levetiracetam
- Venlafaxine
- Duloxetine
- Pregabalin

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

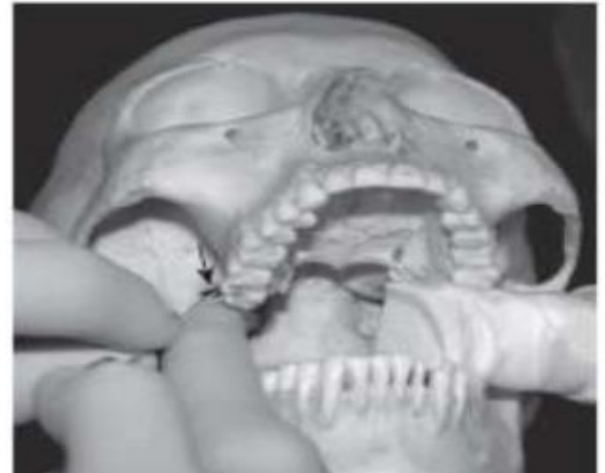
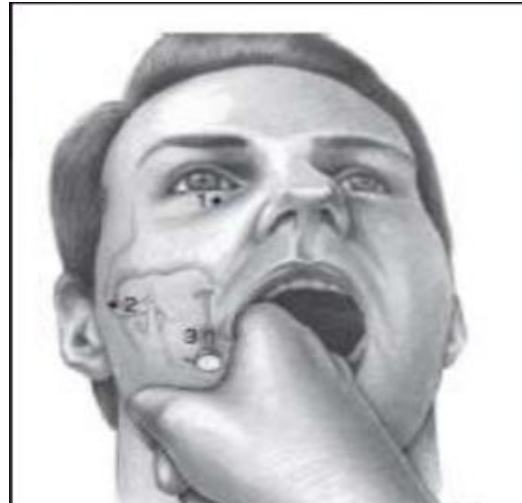
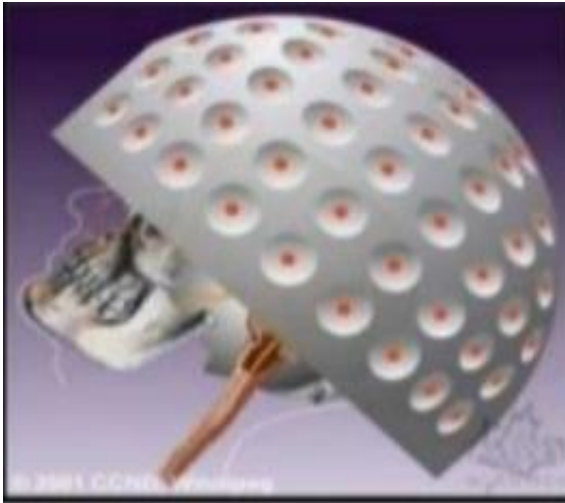
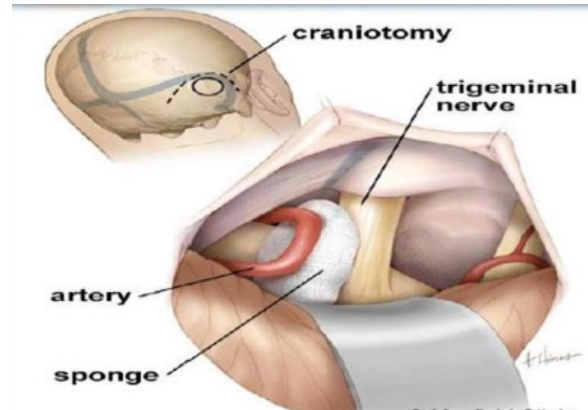
Liječenje trigeminalne neuralgije



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Neurokirurške metode

- Indikacije: rezistentnost na farmakoterapiju, nuspojave
- Metode:
 - Perkutane
 - Otvoreni kirurški pristupi
 - Radioterapija



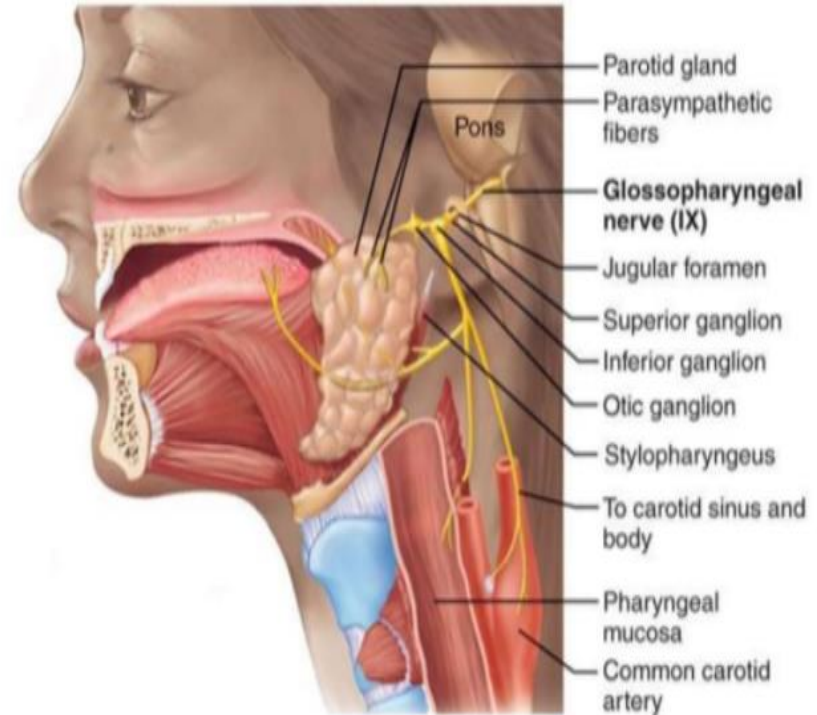
Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Liječenje trigeminalne neuralgije

- Mikrovaskularna dekompresija: invazivna, stopa smrtnosti niska, a komplikacije rijetke.
- Ablativni postupci (rizotomija s radiofrekvencijskom termokoagulacijom, mehaničkom balonskom kompresijom ili injekcijom kemijske supstancije (glicerola), radiokirurgijom)
- Ablativni postupci: manje invazivni, ponavljanje može biti češće.
- Komplikacija: bolna posttraumatska neuropatija
- Odluka o operaciji i odabir kirurških mogućnosti nalažu individualni pristup bolesniku te ovisе o dostupnosti tehnika i stručnosti lokalnoga bolničkog centra.

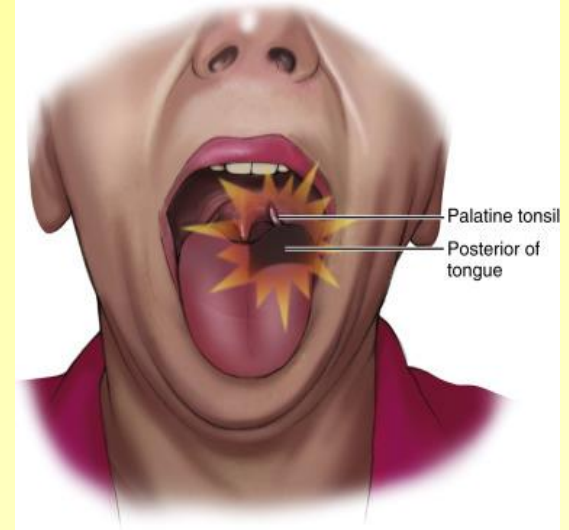
Anatomija nervus glossopharingeusa

- inervira m.stylopharyngicus i mišiće stražnjeg stuba ulaza u ždrijelo
- prenosi senzibilitet za dodir iz:
bubne duplje i mastoida,
zadnjeg dijela mekog nepca,
uvule, tube auditive, epiglotisa,
zadnjeg i bočnog dijela ždrijela,
tonzila i zadnje trećine jezika.



Glosofaringealna neuralgija

- Epizode jake, oštre, probadajuće boli u području inervacije IX kranijalnog živca.
- Rjeđa je od trigeminalne neuralgije
- Često se sa njom zamjenjuje zbog sličnosti napada bolova i lokalizacije.
- Učestalost - opštoj populaciji 0,5/100.000 stanovnika.



Glosofaringealna neuralgija

➤ Primarna ili idiopatska i sekundarna ili simptomatska

➤ *Simptomatska* može biti:

posljedica tm pontocerebelarnog ugla.

tm moždanog stabla, kao i drugi tm zadnje lobanjske jame.

kompresija živca od strane aneurizme

infekcije i traume vrata.

Idiopatska glosofaringealna neuralgija

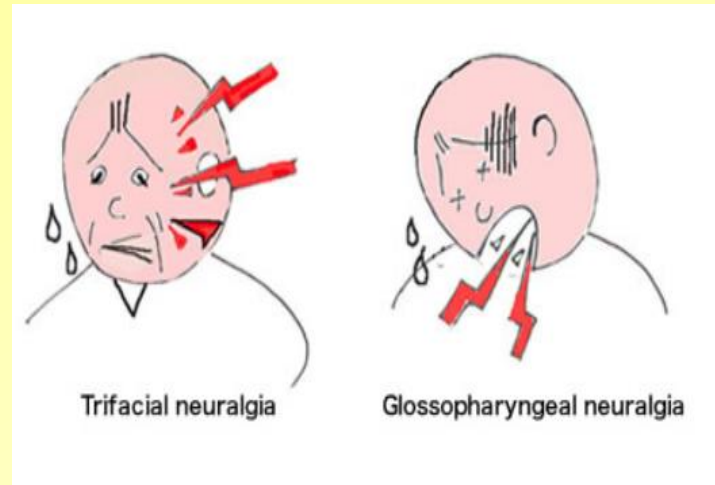
- Nepoznatog je uzroka, počinje u 5., 6. i 7. deceniji života.
- Paroksizmalni unilateralni napadi boli jakog intenziteta
- Probadanje ili „udar električnom strujom“
- Tonzile, uho, stražnji dio ždrijela, bazu jezika i područje iznad mandibularnog ugla.



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Idiopatska glosofaringealna neuralgija

- Provocirajući faktori: kašljanje, gutanje, zijevanje, žvakanje, kihanje te mehaničkim dodirima u području vrata i vanjskog zvukovoda
- 2-3 puta godišnje
- Nekoliko min do nekoliko dana
- Periodi bolova postaju češći
- Mogu trajati nekoliko nedjelja
- Dok pauze postaju kraće, nekoliko dana.
- Praćeni salivacijom, zažarenošću lica, znojenjem, suzenjem, tahikardijom, hipertenzijom i vrtoglavicom



Dijagnoza glosofaringealne neuralgije

Anamneza

Klinička slika

MRI mozga, MRA

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

Faringealni refleks

- Draženje zadnjeg zida ždrijela ili korijena jezika (na svakoj strani posebno), pri čemu dolazi do refleksne kontrakcije faringealne muskulature i nagona na povraćanje.
- Aferentni neuron je n.glossopharyngeus,
- Refleksni centar je u medulli oblongati,
- Eferentni neuron je n.vagus.
- Refleksni luk oštećen ↔ refleks izostaje.



Palatini refleks

- Špatulom se dodiruje uvula ili meko nepce
- meko nepce podiže, uvula retrahira (skvrčava).
- Pri oduzetosti jedne polovine mekog nepca, izrazitije se podiže zdrava polovina.

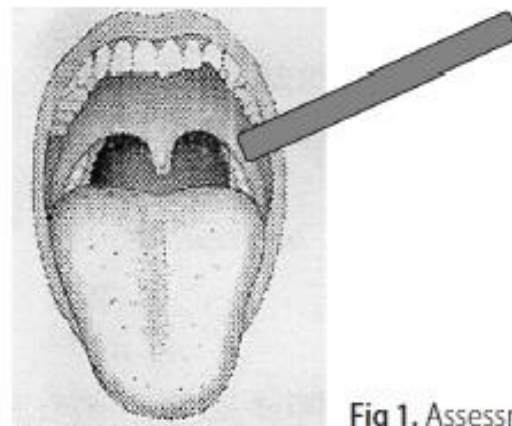
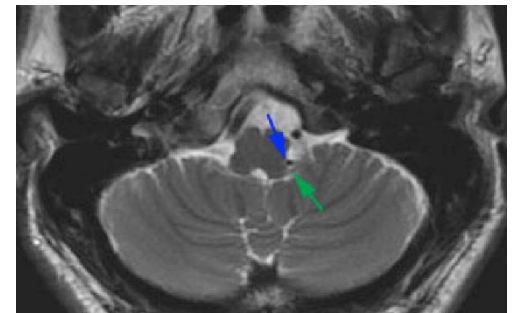
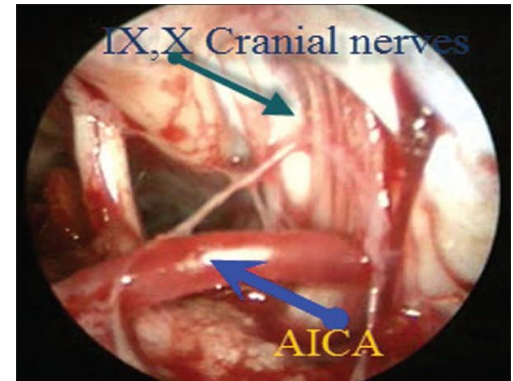
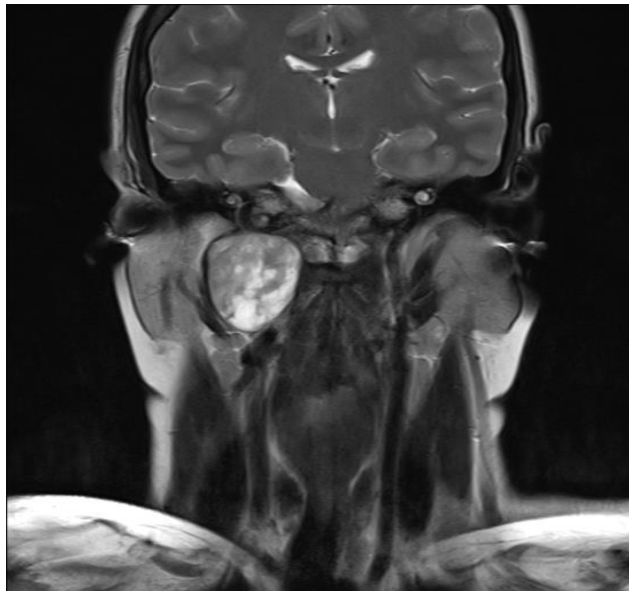
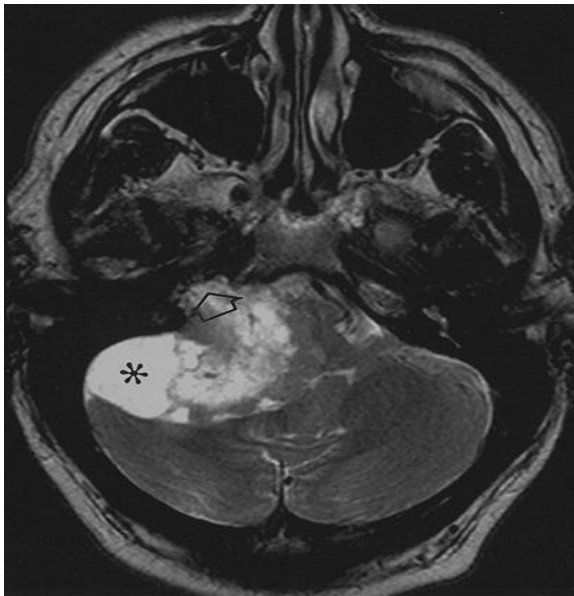


Fig 1. Assessment of palatal reflex.

Dijagnoza glosofaringealne neuralgije

- Primjena površinskih anestetika na predio tonzila i farinksa vrijedno je dijagnostičko sredstvo
- Ako se radi o GN, bol će prestati nakon 1-2h.
- Izdrži probe draženja provokacionih mjesta bez pojave bola.

Dijagnoza glosofaringealne neuralgije

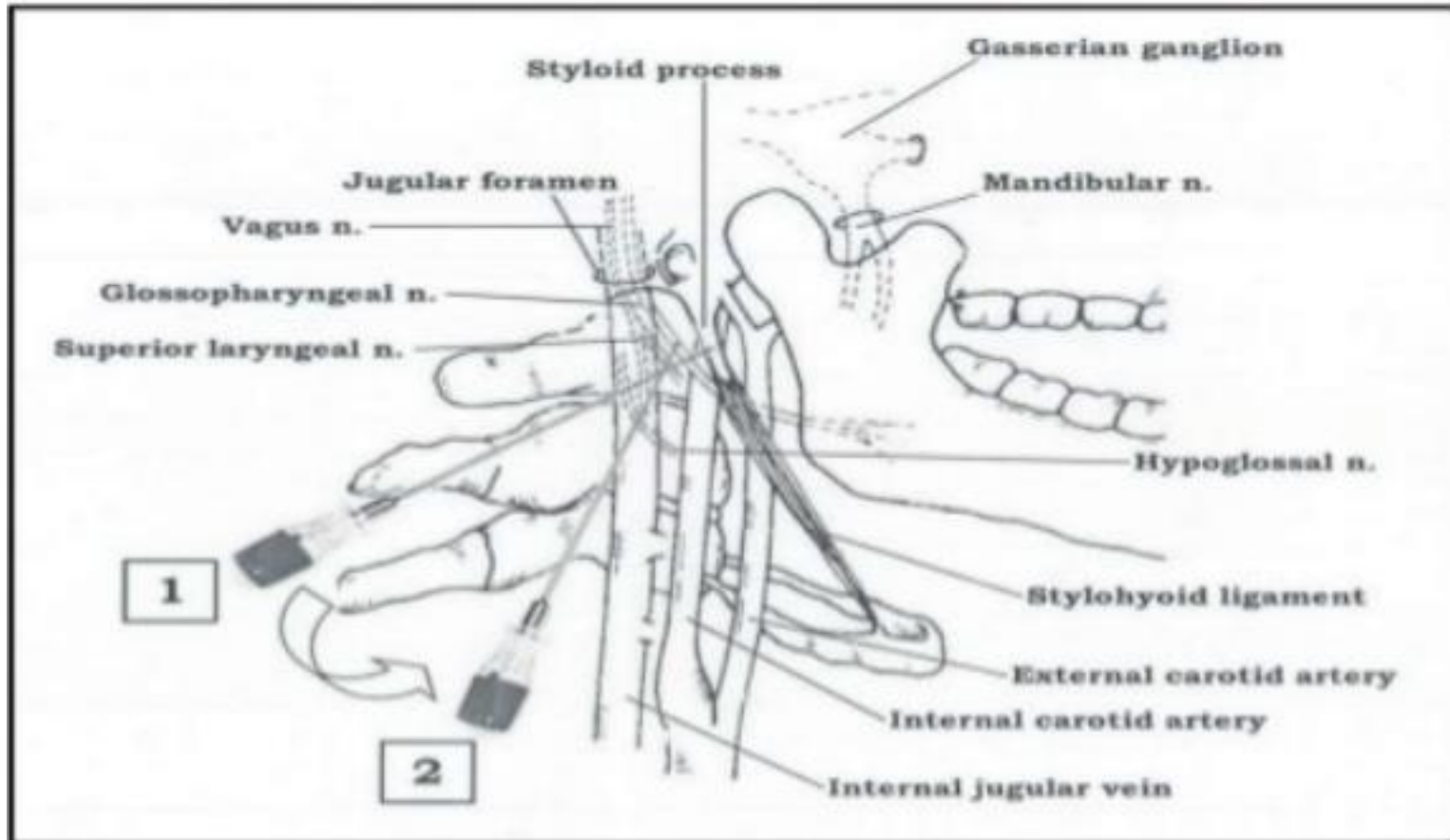


a. Tm pontocerebralnog ugla; b. schwanom IX, c. Aneurizma ACI, d. Vaskularna kompresija

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Terapija glosofaringealne neuralgije

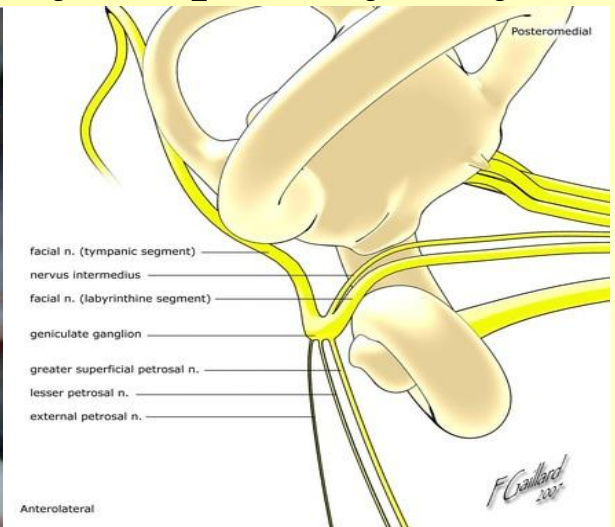
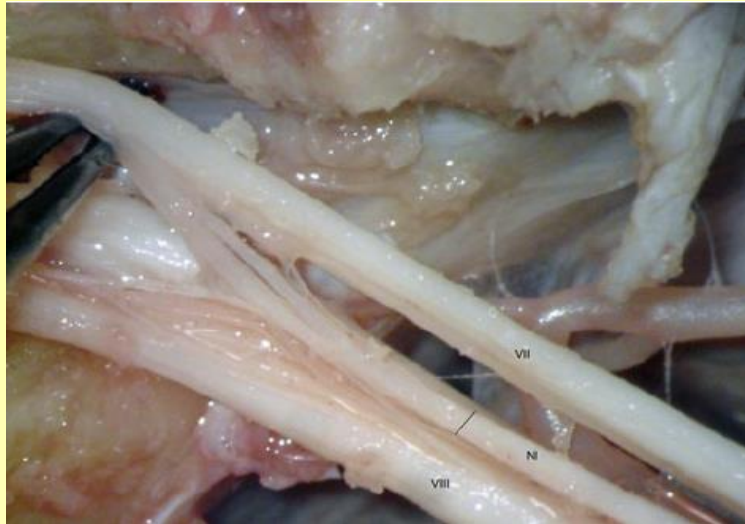
Kao i kod trigeminalne neuralgije – perkutana radiofrekventna termokoagulacija



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Neuralgija intermediusa

- Huntov sindrom, neuralgia facialisa, neuralgia chordae tympani
- Rijetka, zahvata mali senzorni ogranak facijalnog živca
- Paroksizmalan, jakog intenziteta lokaliziran u unutrašnjim strukturama uha i
- Širi se prema parijetookcipitalnom području ili području koje inerviraju V



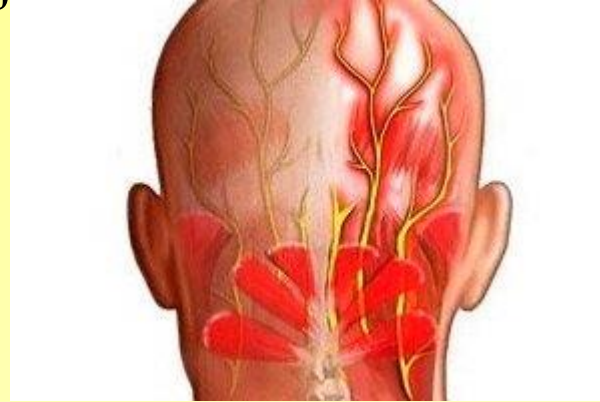
Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

Neuralgija intermediusa

- Nastaje spontano ili se provocira pritiskom na slušni kanal, gutanjem ili govorom.
- Poremećaji osjeta u ustima, šum u uhu i vrtoglavica tokom nastupa boli
- Anamneze, neurološkog pregleda i neuroradiološke obrade (MRI mozga i MR angiografija).
- Th: antiepileptici
- kirurško liječenje u lokalnoj anesteziji
- presijecanje nervus intermediusa.

Okcipitalna neuralgija

- Jaka, oštra bol u gornjem dijelu vrata i potiljačnom dijelu glave
- Unilateralna (85%)
- Paroksizmalna bol
- Dizestezija ili alodinija u stražnjem dijelu vlasišta
- Žarenje i probadanje i traju od nekoliko sek do 1 minute, a između tupa bol



Okcipitalna neuralgija

1. Patološki procesi cervikalnih korijenova C2-C4 i malih okcipitalnih živaca:
upala, trauma, kompresije ekspanzivnom tvorbom
2. Nepoznati uzroci (češća)
 - Provocirajući faktori: umivanje, češljanje, hladnoća, emocionalna napetost

Okcipitalna neuralgija

- Simptomatsko ili etiološko (sekundarne)
- Primjena anestetičkog bloka u veći ili manji okcipitalni živac u komb s injekcijom kortikosteroida
- Konzervativne intervencije: tople/hladne kompresije, masaža, vježbe usmjerene na poboljšanje držanja
- Djelotvorni nesteroidni protuupalni lijekovi, mišićni relaksanti, triciklički antidepresivi, antiepileptici (gabapentin)

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"



Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"