LEITUVOS SVEIKATOS MOKSLŲ UNIVERSITETAS

PATVIRTINTA
Kauno medicinos universiteto
2004 m. gruodžio 17 d.
Nutarimu Nr. 3-11

ATNAUJINTA
2022-06-01

CENTRINĖS NERVŲ SISTEMOS KRAUJAGYSLIŲ LIGOS

Dalyko programos koordinatorius:
Neurochirurgijos klinika, prof.. habil. dr. Arimantas Tamašauskas _____
padalinio pavadinimas, vadovo pareigos, pedagoginis vardas, mokslo laipsnis, vardas, pavardė parašas

Padaliniai, dalyvaujantys dalyko programoje:

1. Neurochirurgijos klinika, prof.. habil. dr. Arimantas Tamašauskas _____
   padalinio pavadinimas, vadovo pedagoginis vardas, mokslo laipsnis, vardas, pavardė parašas

Kaunas, 2022

Dalyko programos duomenys

Mokslų sritis	Medicinos ir sveikatos mokslai
Mokslo kryptis (kodas)	Medicina – M 001
Dalyko pavadinimas	Centrinės nervų sistemos kraujagyslių ligos
Programos apimtis	160 val. (4 kreditai)
Paskaitos	60 val.
Seminarai	20 val.
Savarankiškas darbas	80 val.

Dalyko programos rengimo grupė

Eil. Nr.	Pedagoginis vardas, vardas, pavardė	Pareigos	Telefonas (darbo)	Elektroninio pašto adresas
1	Prof. Arimantas Tamašauskas	Klinikos vadovas	326472	arimantas.tamasauskas@kaunoklinikos.lt
2	Prof. Vytenis Pranas Deltuva	Galvos smegenų chirurgijos sk. vadovas	326549	vytenis.deltuva@ kaunoklinikos.lt
3	Doc. Giedrimantas Bernotas	Neurochirurgas	326022	bernotas@kmu.lt
4	Doc. Algimantas Matukevičius	Vaikų neurochirurgijos sk. vadovas	326955	algimantas.matukevicius@ kaunoklinikos.lt
5	Doc. Kazys Vytautas Ambrozaitis	Neurochirurgas	326577	kazys.ambrozaitis@ kaunoklinikos.lt
6	Dr. Egidijus Marcinkevičius	Galvos smegenų chirurgijos sk. Kraujagyslių sektoriaus vadovas	326024	egidijus.marcinkevicius@ kaunoklinikos.lt
7	Doc. Kęstutis Skauminas	Neurochirurgas	326883	kestutis.skauminas@lsmuni.lt
8	Doc. Rimantas Vilcinis	Galvos smegenų traumų sk. vadovas	326821	rimantas.vilcinis@kaunoklinikos.lt
9	Dr. Andrius Radžiūnas	Neurochirurgas	326164	andrius.radziunas@kaunoklinikos.lt
10	Dr. Gintautas Vaitkevičius	Neurochirurgas	326577	gintasva@one.lt

Dalyko programos aprašas:

1. Dalyko programos poreikis:

- Išanalizuoti naujausius mokslinės literatūros duomenis apie smegenų kraujagyslių susirgimus, jų etiopatogenezę, diagnostiką ir gydymą.
- Supažindinti su nagrinėjamų susirgimų epidemiologija
- Supažindinti su nagrinėjamos susirgimų profilaktikos galimybėmis
- Išmokyti atpažinti skirtingus CNS kraujagyslių susirgimus
- Išmokyti parinkti optimalią diagnostikos ir gydymo taktiką

- Išmokyti kritiškai vertinti moksliniuose straipsniuose pateiktus duomenis.
- Išmokyti organizuoti CNS kraujagyslių susirgimų mokslinius tyrimus.

2. Dalyko programos tikslai: išanalizuoti etiopatogenetinius galvos ir nugaros smegenų kraujagyslių ligų faktorius, supažindinti su pagrindiniais tyrimo, gydymo taktikos pasikeitimais, naujausiais gydymo metodais bei rezultatais.
3. Dalyko programos sandara, turinys ir studijų metodai:
   Apimtis – 4 kreditai (160 valandų):
   a) Paskaitos – 60 val.
   b) Seminarai – 20 val.
   c) Savarankiškos studijos – 80 val.
   Dėstytojai:
   A.Tamašauskas – prof., habil. dr., neurochirurgas
   V.Deltuva – dr., neurochirurgas
   G.Bernotas – dr., neurochirurgas
4. Metodinis dalyko programos aprūpinimas:
   Įvertinimas **Suminis balas**: 100% balo sudaro: 40-50% auditorinio darbo + 20-30% savarankiško darbo + 20-40% baigiamojo teorinio ir praktinio patikrinimo.

TEORINĖ DALIS

Eil. Nr.	Paskaitos pavadinimas	Trukmė	Dėstytojas
1.	CNS kraujagyslių anatomija Smegenų kraujagyslių struktūra ir inervacija. Vilisijaus rato chirurginė anatomija, arterijų maitinamos smegenų zonos. Galvos smegenų veninė sistema. Nugaros smegenų kraujagyslių chirurginė anatomija.	3 val.	Dr. A.Radžiūnas
2.	CNS kraujotakos fiziologija Smegenų kraujotakos autoreguliacijos mechanizmai. Neurogeninė ir metabolinė CNS kraujotakos reguliacija. Kolateralinė kraujotaka. Hematoencefalinis barjeras.	3 val.	Prof. habil.dr. A. Tamašauskas
3.	Kritinės būklės, esant CNS kraujotakos sutrikimams Smegenų edema dėl smegenų kraujotakos sutrikimų. Koma. Intensyvi terapija. Prognozė.	3 val.	Doc. R.Vilcinis
4.	Smegenų kraujotakos sutrikimai eksperimente Eksperimentiniai smegenų insulto modeliai. Chirurginis ir medikamentinis insulto sukėlimo metodai. Tyrimų rezultatai ir tyrimų metodai.	3 val.	Prof. habil.dr. A. Tamašauskas
5.	CNS kraujagyslinių susirgimų epidemiologija Informacijos paieška. Pagrindinių CNS kraujagyslių susirgimų epidemiologiniai rodikliai. Sergamumas, mirtingumas, mirštamumas. Rizikos faktoriai.	3 val.	Prof. habil.dr. A. Tamašauskas
6.	Smegenų kraujagyslių aterosklerozė (Dr. Etiopatogenezė, klinikinė išraiška, diagnostika, rizikos faktoriai. Aterosklerozės įtaka galvos smegenų kraujagyslių susirgimams. Gydymas ir profilaktika.	3 val.	Prof. V.Deltuva
7.	CNS kraujagyslių tyrimo metodai Laboratoriniai tyrimai. Skaitmeninė angiografija, ultragarsinis kraujotakos tyrimas transkranijiniu dopleriu ir duplex skaneriu,	3 val.	Doc. Dr. A.Radžiūnas /dr.E.Marcinkevičius

	kompiuterinė tomografija, magnetinio rezonanso tyrimas, SPECT. Jų privalumai ir trūkumai nustatant galvos smegenų kraujagyslių susirgimus.		
8.	Extracerebrinių kraujagyslių susirgimai Miego arterijų asimptominė stenozė, kritinė stenozė, trombozė. Kolateralinė kraujotaka. Slankstelinių arterijų stenozė, trombozė aortos lanko srityje ir kaklo srityje. Retos smegenų išemiją sukeliančios priežastys: navikai, trauminiai pažeidimai, osteofitai, tarpslankstelinių diskų išvaržos, reti sisteminiai kaklo kraujagyslių susirgimai.	3 val.	Dr. A.Radžiūnas/dr. G.Vaitkevičius
9.	Galvos smegenų kraujagyslių patologija Aterosklerozė, amiloidinė angiopatija, cerebralinis angiitas, trombembolija iš magistralinių smegenų kraujagyslių ir kardiogeninė embolizacija, reti susirgimai. Jų etiopatogenezė, paplitimas, diagnostika ir gydymas.	3 val.	Doc. G. Bernotas/dr.E.Marcinkevičius
10.	Smegenų infarkto klinika, diagnostika ir medikamentinis gydymas. Etiopatogenezė, paplitimas.Vilisijaus rato arterijų okliuzijos simptomatologija ir klinikiniai sindromai: Lakunariniai infarktai, ataksinė hemiparezė, disartrija, sensorikos sutrikimai, kalbos sutrikimai. Smegenų infarkto tipai: praeinantis išeminis neurologinis deficitas, RIND, stabilus infarktas, progresuojanis infarktas, multiinfarktinė būklė. Medikamentinio gydymo galimybės.	3 val.	Prof. V. Deltuva
11.	Smegenų infarkto chirurginis gydymas ir reabilitacija Indikacijos. Endarterektomija, Ekstra-intrakranialiniai mikronuosrūviai, kitos revaskuliarizacijos procedūros, embolektomija. Ankstyvoji ir vėlyvoji reabilitacija, prognozė.	3 val.	Doc. G. Bernotas/dr.E.Marcinkevičius
12.	Subarachnoidinė hemoragija. Epidemiologija. Patofiziologiniai smegenų ir kraujotakos ypatumai esant subarachnoidinei hemoragijai. Etiopatogenezė, klinika, diagnostika (neinvazinė, invazinė), gydymas (medikamentinis chirurginis). Indikacijos chirurginei intervencijai	3 val.	Doc. A.Matukevičius
13.	Maišinės smegenų arterijų aneurizmos Maišinių aneurizmų tipai ir lokalizacija, formavimosi teorijos, klinika. Kraujavimas, jo pobūdis. Tipinė ir atipinė eiga. Diagnostika. Gydymo taktika ir indikacijos chirurginiam gydymui. Chirurginio gydymo metodai ir prognozė.	3 val.	Prof. habil.dr. A. Tamašauskas
14.	Vasospazmas Etiopatogenezė, ankstyvieji ir vėlyvieji arterijų ir smegenų pokyčiai, klasifikacija, klinikinis pasireiškimas, gydymo metodai (medikamentinis, endovaskulinis, chirurginis).	3 val.	Doc. G. Bernotas/dr.E.Marcinkevičius

15.	Arterioveninės malformacijos Arterioveninių malformacijų tipai ir lokalizacija, formavimosi teorijos, klinika (asimptominė, apvogimo, epilepsija, galvos skausmas). Kraujavimas, jo pobūdis. Tipinė ir atipinė eiga. Diagnostika. Gydymo taktika ir indikacijos chirurgijai. Chirurginio gydymo metodai ir prognozė.	3 val.	Prof. habil.dr. A. Tamašauskas
16.	Retos galvos smegenų kraujagyslių ligos Dura mater AVM, fibromuskulinė displazija, venų trombozė, Moya-Moya liga, koaguliopatijos. Diagnostika, medikamentinis ir chirurginis gydymas.	3 val.	Prof. habil.dr. A. Tamašauskas/ doc. K.Skauminas
17.	Karotido-kaverninės fistulės. Etiologija ir klasifikacija, radiologinė klasifikacija. Patofiziologija, klinikinis sindromas. Diagnostika ir diferencinė diagnostika. Konservatyvaus ir chirurginio gydymo indikacijos, metodai, prognozė.	3 val.	Prof. V. Deltuva/doc. K.Skauminas
18.	Hemoraginiai insultai Epidemiologija, etiopatogenezė, patofiziologija, klinikinis pasireiškimas, chirurginė klasifikacija, diagnostika, konservatyvaus ir chirurginio gydymo indikacijos, metodai, prognozė.	3 val.	Dr. A.Radžiūnas
19.	Nugaros smegenų kraujagyslių susirgimai Išemija, etiopatogenezė, diagnostika, gydymo taktikos parinkimas. Įgimtos nugaros smegenų kraujagyslių ligos, pasireiškimo tipai, etiopatogenezė, klinika, diagnostika, prognozė, ankstyvoji ir ilgalaikė reabilitacija.	3 val.	Doc. K.Ambrozaitis/dr. G.Vaitkevičius
20.	CNS kraujagyslių susirgimais sergančiųjų reabilitacija Bendrieji principai, Veiksniai, nulemiantys pacien sveikimą. Kalbos sutrikimų atstatymas. Judėjimo funkcijų atstatymas, esant stuburo ir galvos smeg funkcijos sutrikimams.	3 val.	Prof. habil.dr. A. Tamašauskas/ Doc. R.Vilcinis

TEORINĖ-PRAKTINĖ DALIS

Eil. Nr.	Seminaro temos pavadinimas	Trukmė	Dėstytojas
1.	**Diferencinė diagnostika** CNS kraujotakos sutrikimus primenančių susirgimų analizė ir tyrimo metodai, įgalinantys nustatyti diagnozę. Tyrimo metodų patikimumo vertinimas. Praktinės užduotys, vertinant CNS angiologinius susirgimus.	4 val.	Prof. V. Deltuva
2.	**Chirurginių gydymo metodų apžvalga.** Chirurginiai instrumentai, monitoravimas operacijos metu, pooperacinis sekimas ir tyrimai. Diagnostikos ir gydymo algoritmų analizė.	4 val.	Dr. A.Radžiūnas, doc. K.Skauminas
3.	**Video medžiagos analizė.** Analizuojama CNS	4 val.	Dr.E.Marcinkevičius

	kraujagyslių operacijų videomedžiaga		
4.	**Mokslinių medicininių straipsnių kritinė analizė** Doktorantai pristato perskaitytų straipsnių analizę.	4 val.	Prof. habil.dr. A. Tamašauskas
5.	**Mokslinių pranešimų bei tezių ruošimas.** Doktorantai ruošia ir analizuoja tezių, pranešimų, paskaitų, pranešimų projektus iš savo vykdomo darbo srities ir medžiagos.	4 val.	Prof. habil.dr. A. Tamašauskas

SAVARANKIŠKAS DARBAS

Priedas Nr. 1

Rekomenduojama literatūra

Literaturos sarasas aneurizmoms

1. The International Study of Unruptured Intracranial Aneurysm Investigators. Unruptured intracranial aneurysms -- risk of rupture and risks of surgical intervention. N Engl J Med 1998; 339:1725-1733.
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