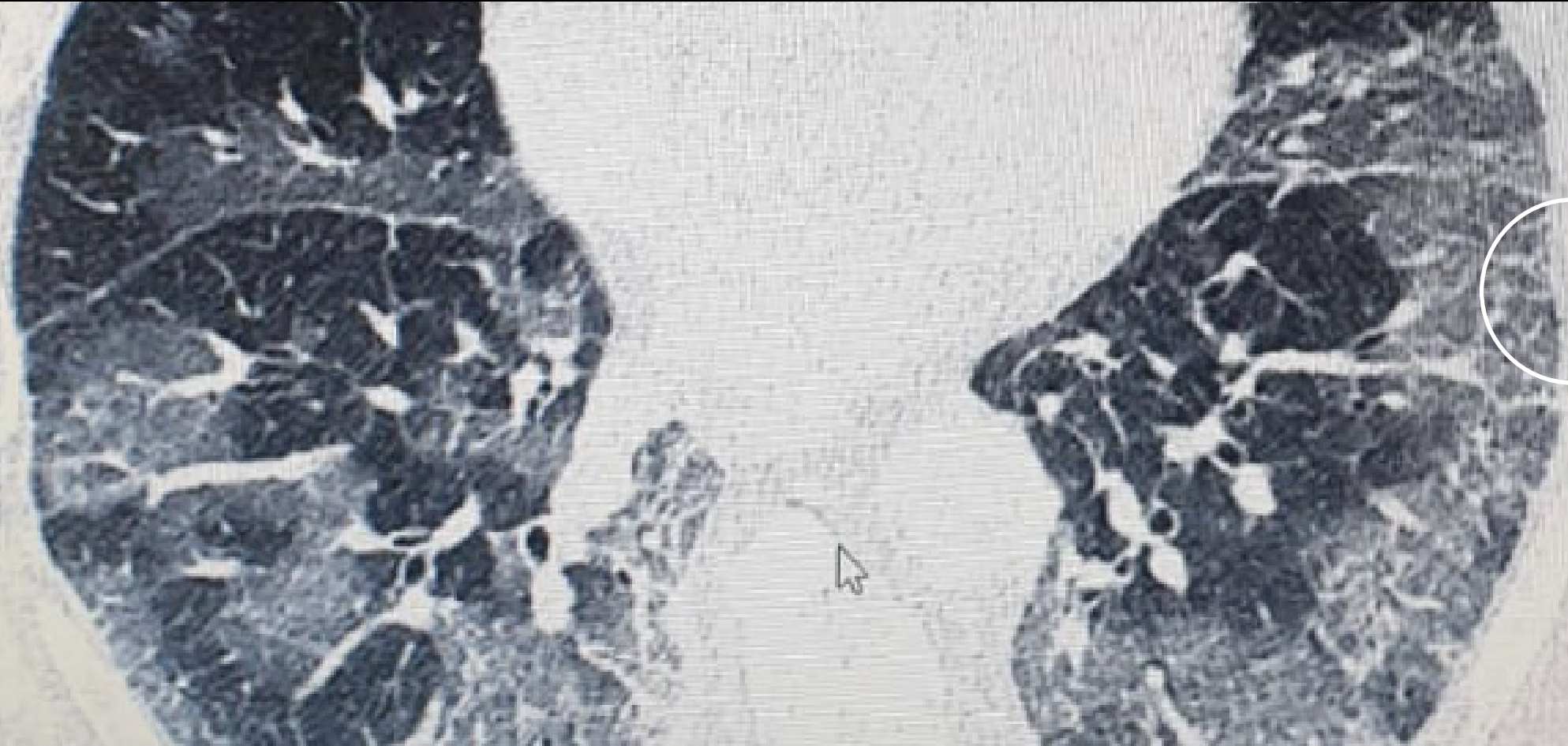


POST-COVID 30.9.2022 Hradec Králové

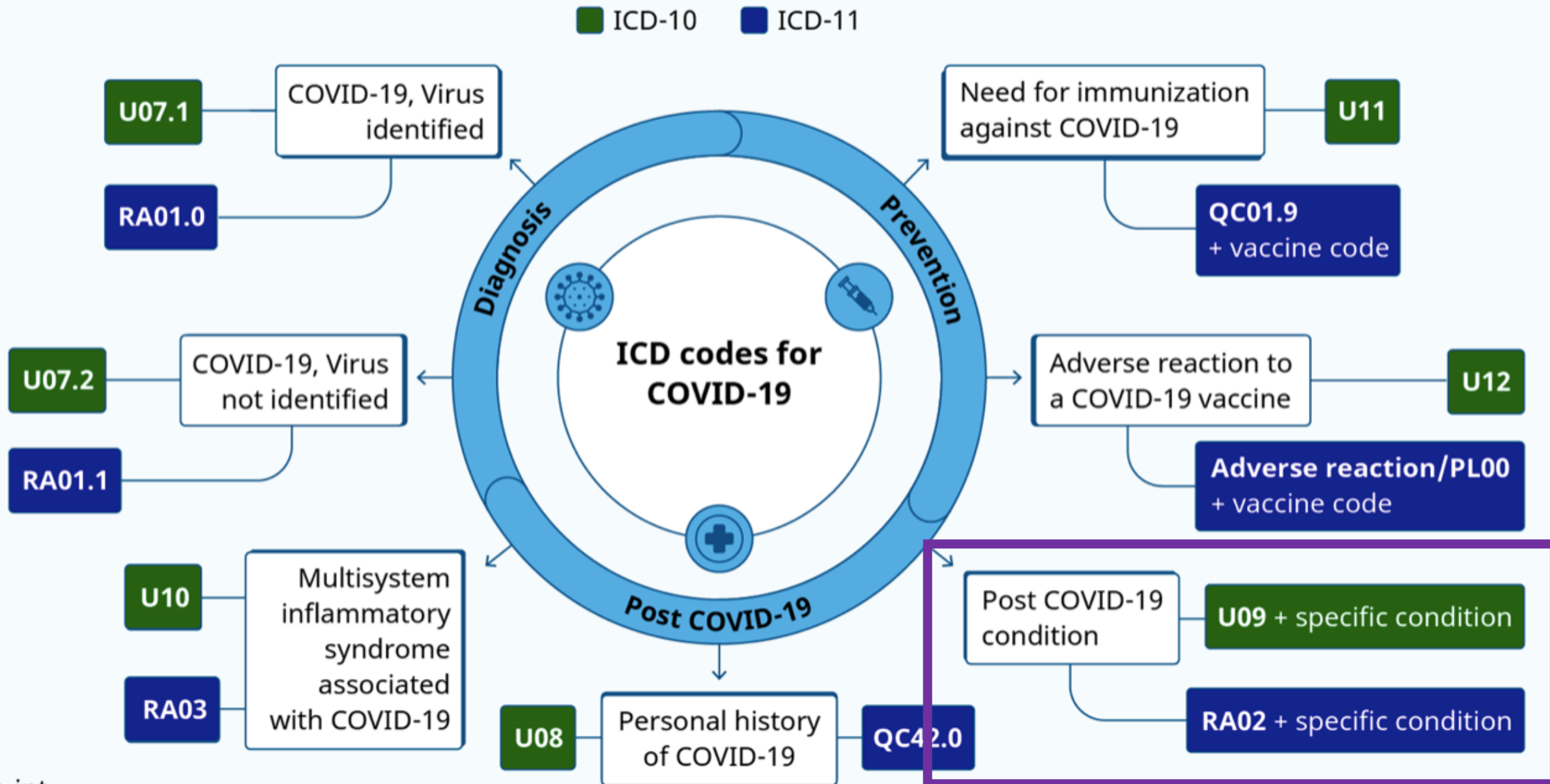
Vladímír Koblížek, Michal Kopecký, Mikuláš Skála
Plicní klinika FN HK a UK LF HK



**Akutní COVID-19 může mít
následky = subakutní/chronické**



Vykazování dg. dle MKN





HRCT PLIC

Následky po COVID-19

- plynule navazující
- se zpožděním

Post-COVID definice NICE 2021

NICE National Institute for
Health and Care Excellence

... as signs and symptoms that develop during or following an infection consistent with COVID-19 which continue for **more than 12 weeks and are not explained by an alternative diagnosis.**



Nalbandian et al. Nature Medicine 2021

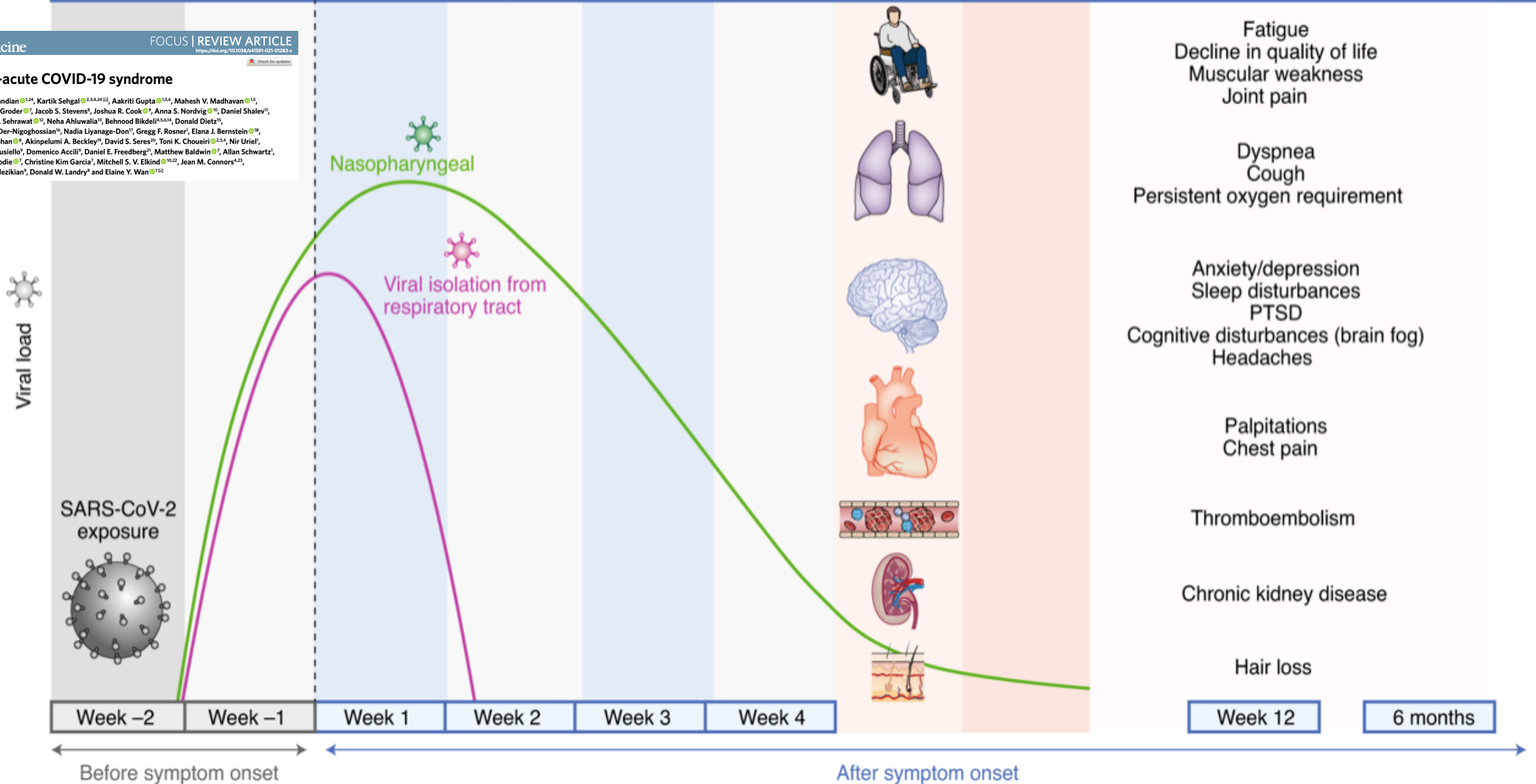
Acute COVID-19	Post-acute COVID-19
Subacute/ongoing COVID-19	Chronic/post-COVID-19

Detection unlikely	PCR positive	PCR negative
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nature medicine FOCUS | REVIEW ARTICLE
<https://doi.org/10.1038/s41591-021-01283-x>
[Check for updates](#)

Post-acute COVID-19 syndrome

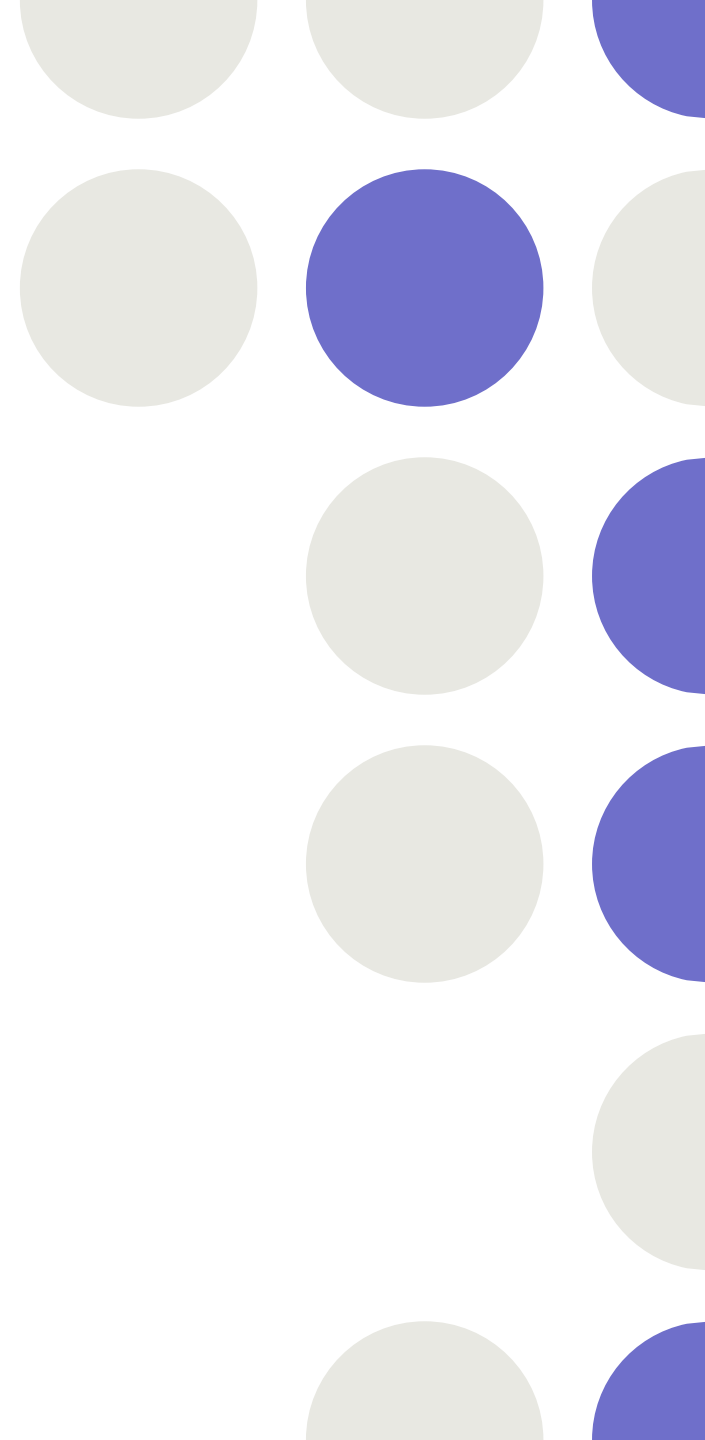
Ani Nalbandian^{1,2,4}, Kartik Sehgal^{2,3,4,24,25}, Aakriti Gupta^{1,5,6}, Mahesh V. Madhavan^{1,5},
 Claire McGroder⁷, Jacob S. Stevens⁸, Joshua R. Cook⁹, Anna S. Nordvig¹⁰, Daniel Shalev¹¹,
 Tejasv S. Sehrawat¹², Neha Ahluwalia¹³, Behnood Bikkeli^{4,5,6,14}, Donald Dietz¹⁵,
 Caroline Der-Nigoghossian¹⁶, Nadia Liyanage-Don¹⁷, Gregg F. Rosner¹⁸, Elana J. Bernstein¹⁹,
 Sumit Mohan²⁰, Akinpelumi A. Beckley²¹, David S. Seres²², Toni K. Choueiri²³, Nir Uriel²⁴,
 John C. Ausiello²⁵, Domenico Accilli²⁶, Daniel E. Freedberg²⁷, Matthew Baldwin²⁸, Allan Schwartz²⁹,
 Daniel Brodie³⁰, Christine Kim Garcia³¹, Mitchell S. V. Elkind^{32,33}, Jean M. Connors^{4,23},
 John P. Bitezikian³⁴, Donald W. Landry³⁵ and Elaine Y. Wan³⁶



A new Delphi consensus definition of post(long)-COVID

- „Condition occurs in individuals with a **history of probable or confirmed SARS-CoV-2 infection**, usually 3 months from the onset, with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis.“

[Soriano 2022]



Dopady COVID-19 mohou být patrné dokonce v řádu mnoha (>6) měsíců

JAMA Network | Open



Original Investigation | Infectious Diseases

Respiratory and Psychophysical Sequelae Among Patients With COVID-19 Four Months After Hospital Discharge

Mattia Bellan, MD, PhD; Daniele Soddu, MD; Piero Emilio Balbo, MD; Alessio Baricich, MD, PhD; Patrizia Zeppeggi, Giuseppe Bartolomei, MD; Marco Battaglia, MD; Sofia Battistini, MD; Valeria Binda, MD; Margherita Borg, MD; Vin Elisa Clivati, MD; Carlo Cisari, MD; Martina Costanzo, MD; Alessandro Croce, MD; Daria Cuneo, MD; Carla De Benedetti, Martina Gai, MD; Eleonora Gambaro, MD; Eleonora Gattoni, MD; Carla Gramaglia, MD, PhD; Leonardo Grisafi, MD; Amalia Jona, MD; Marco Invernizzi, MD, PhD; Luca Lorenzini, MD; Lucia Loreti, MD; Maria Martelli, MD; Paolo Maria Elena Parachini, MD; Filippo Patrucco, MD; Giuseppe Patti, MD; Alice Pirovano, MD; Pierluigi Prosperini, MD; Riccardo Pier Paolo Sainaghi, MD, PhD; Camilla Vecchi, MD; Erika Zecca, MD; Mario Pirisi, MD

Long COVID: An overview

A.V. Raveendran^{a, b, *}, Rajeev Jayadevan^c, S. Sashidharan

^a Govt. Medical College, Manjeri, Kottayam, Kozhikode, Kerala, India
^b Specialist in Internal Medicine, Badr Al Samaa, Barka, Oman
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ARTICLE INFO

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Received in revised form
26 March 2021
Accepted 6 April 2021

Keywords:
"Long COVID"
"Long haulers"
"Post COVID syndrome"

ABSTRACT

Background and aims: Long COVID is the collective term to denote persistence of symptoms in those who have recovered from SARS-CoV-2 infection.

Methods: We searched the pubmed and scopus databases for original articles and reviews. Based on the search result, in this review article we are analyzing various aspects of Long COVID.

Results: Fatigue, cough, chest tightness, breathlessness, palpitations, myalgia and difficulty to focus are symptoms reported in long COVID. It could be related to organ damage, post viral syndrome, post-critical care syndrome and others. Clinical evaluation should focus on identifying the pathophysiology, followed by appropriate remedial measures. In people with symptoms suggestive of long COVID but without known history of previous SARS-CoV-2 infection, serology may help confirm the diagnosis.

Conclusions: This review will help the clinicians to manage various aspects of Long COVID.

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6-month consequences of COVID-19 in patients discharged from hospital: a cohort study

Chaolin Huang^{*}, Lixue Huang^{*}, Yeming Wang^{*}, Xia Li^{*}, Lili Ren^{*}, Xiaoying Gu^{*}, Liang Kang^{*}, Li Guo^{*}, Min Liu^{*}, Xing Zhou, Jianfeng Luo, Zhenghui Huang, Shengjin Tu, Yue Zhao, Li Chen, Decui Xu, Yanping Li, Caihong Li, Lu Peng, Yong Li, Wuxiang Xie, Dan Cui, Lianhan Shang, Guohui Fan, Jiuyang Xu, Geng Wang, Ying Wang, Jingchuan Zhong, Chen Wang, Jianwei Wang[†], Dingyu Zhang[†], Bin Cao[†]

Summary

Background The long-term health consequences of COVID-19 remain largely unclear. The aim of this study was to describe the long-term health consequences of patients with COVID-19 who have been discharged from hospital and investigate the associated risk factors, in particular disease severity.

Lancet 2021; 397: 220–32

Published Online

January 8, 2021

<https://doi.org/10.1016/>

nature
medicine



FOCUS

Post-acute COVID-19 syndrome

Ani Nalbandian^{1,24}, Kartik Sehgal^{2,3,4,24}, Akriti Gupta^{1,5,6}, Mahesh V. Madhavan^{1,5}, Claire McGroder⁷, Jacob S. Stevens⁸, Joshua R. Cook⁹, Anna S. Nordvig¹⁰, Daniel Shalev¹¹, Tejasv S. Sehrawat¹², Neha Ahluwalia¹³, Behnood Bikdeli^{4,5,6,14}, Donald Dietz¹⁵, Caroline Der-Nigoghossian¹⁶, Nadia Liyanage-Don¹⁷, Gregg F. Rosner¹, Elana J. Bernstein¹⁸, Sumit Mohan⁸, Akinpelumi A. Beckley¹⁹, David S. Seres²⁰, Toni K. Choueiri^{2,3,4}, Nir Uriel¹, John C. Ausiello⁹, Domenico Accili⁹, Daniel E. Freedberg²¹, Matthew Baldwin⁷, Allan Schwartz¹, Daniel Brodie⁷, Christine Kim Garcia⁷, Mitchell S. V. Elkind^{10,22}, Jean M. Connors^{4,23}, John P. Bilezikian⁹, Donald W. Landry⁸ and Elaine Y. Wan¹

JAMA Network | Open



Research Letter | Infectious Diseases

Sequelae in Adults at 6 Months After COVID-19 Infection

Jennifer K. Logue, BS; Nicholas M. Franko, BS; Denise J. McCulloch, MD, MPH; Dylan McDonald, BA; Ariana Magedson, BS; Caitlin R. Wolf, BS; Helen Y. Chu, MD, MPH



ORIGINAL ARTICLE
COVID-19

Chest radiography is a poor predictor of respiratory symptoms and functional impairment in survivors of severe COVID-19 pneumonia

Rebecca F. D'Cruz¹, Michael D. Waller^{1,2}, Felicity Perrin², Jinstan Periseleris², Sam Norton², Laura-Jane Smith², Tanya Patrick², David Walder², Amadea Heitmann², Kai Lee², Rajiv Madula², William McNulty², Patricia Macedo², Rebecca Lyall², Geoffrey Warwick², James B. Galloway², Surinder S. Birring^{1,2}, Amit Patel^{1,2}, Irem Patel^{1,2} and Caroline J. Jolley^{1,2}



Perspektiva ročního sledování

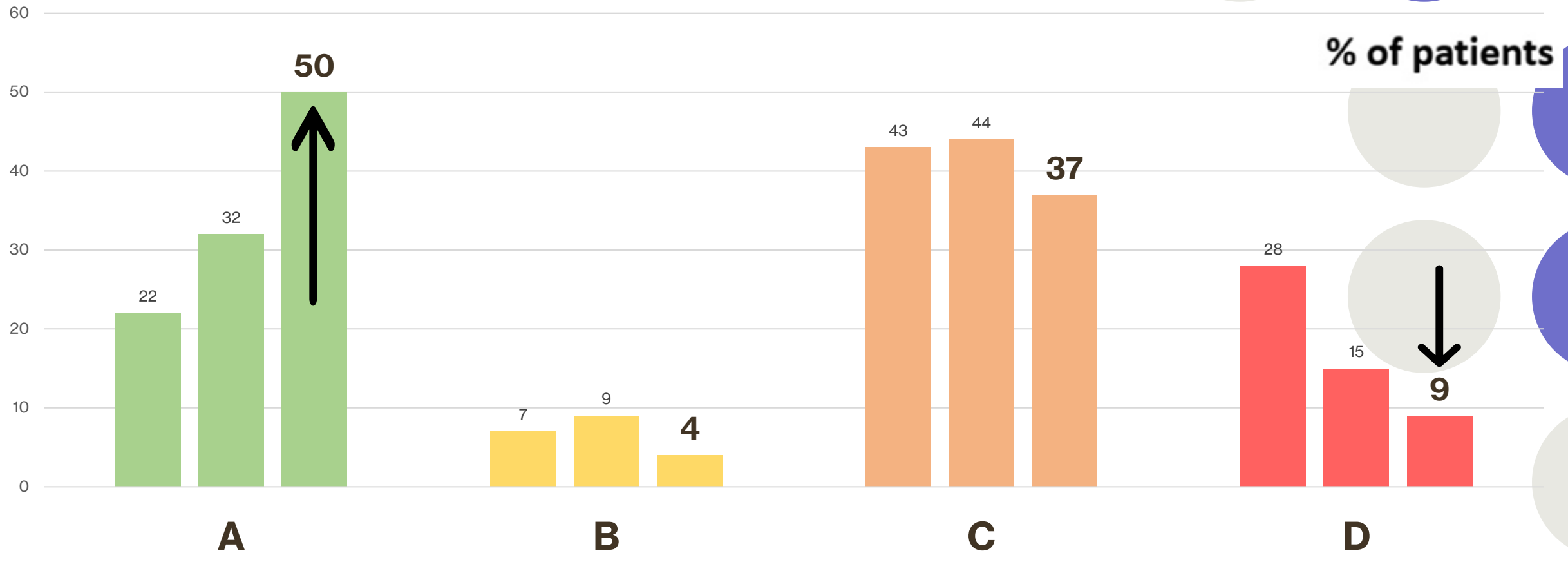
SHORT REPORT

Open Access

Heterogeneity of post-COVID impairment: interim analysis of a prospective study from Czechia



Mikulas Skala^{1,2}, Michal Svoboda³, Michal Kopecky^{1,2}, Eva Kocova^{2,4}, Martin Hyrsi⁴, Michal Homolac⁵, Viktor Chrobok^{2,5}, Pavel Bostik^{2,6,7}, Miroslav Fajfr⁶, Petr Prasil^{2,8}, Stanislav Plisek^{2,8}, Radek Sleha⁷ and Vladimir Koblizek^{1,2*}



Pacienti s extrapulmonálním postižením

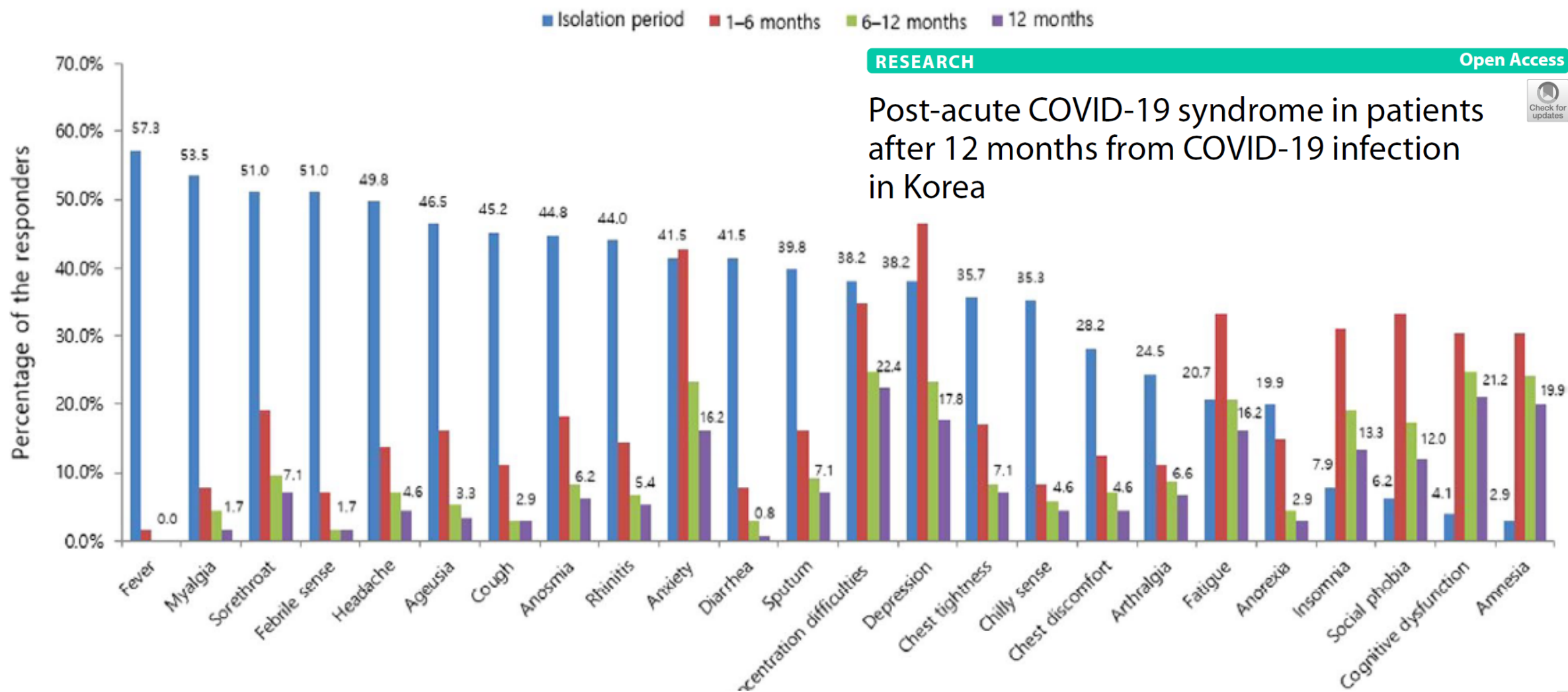
Extra-pulmonary symptoms	n (%)
Fatigue	22 (21.6%)
Loss of smell	21 (20.6%)
Loss of taste	7 (6.9%)
Cephalaea	6 (5.9%)
Memory impairment	5 (4.9%)
Arthragia/myalgia	4 (3.9%)
Conjunctivitis	2 (2.0%)
Dyspepsia	2 (2.0%)
Subfebrile	1 (1.0%)
Others	14 (13.7%)
At least one non-pulmonary symptom	47 (46.1%)

Ale i pacienti bez funkčního nálezu a bez patologie struktury plic

- Po mírném stadiu akutního COVID-19
 - Mohou trpět poruchami centrálního řízení ventilace (hyperventilace při běžné ADL)
 - Změny mohou být dobře vratné při rehabilitační péči
 - Pozor na **moc rychlý** návrat k před COVIDové zátěži
-

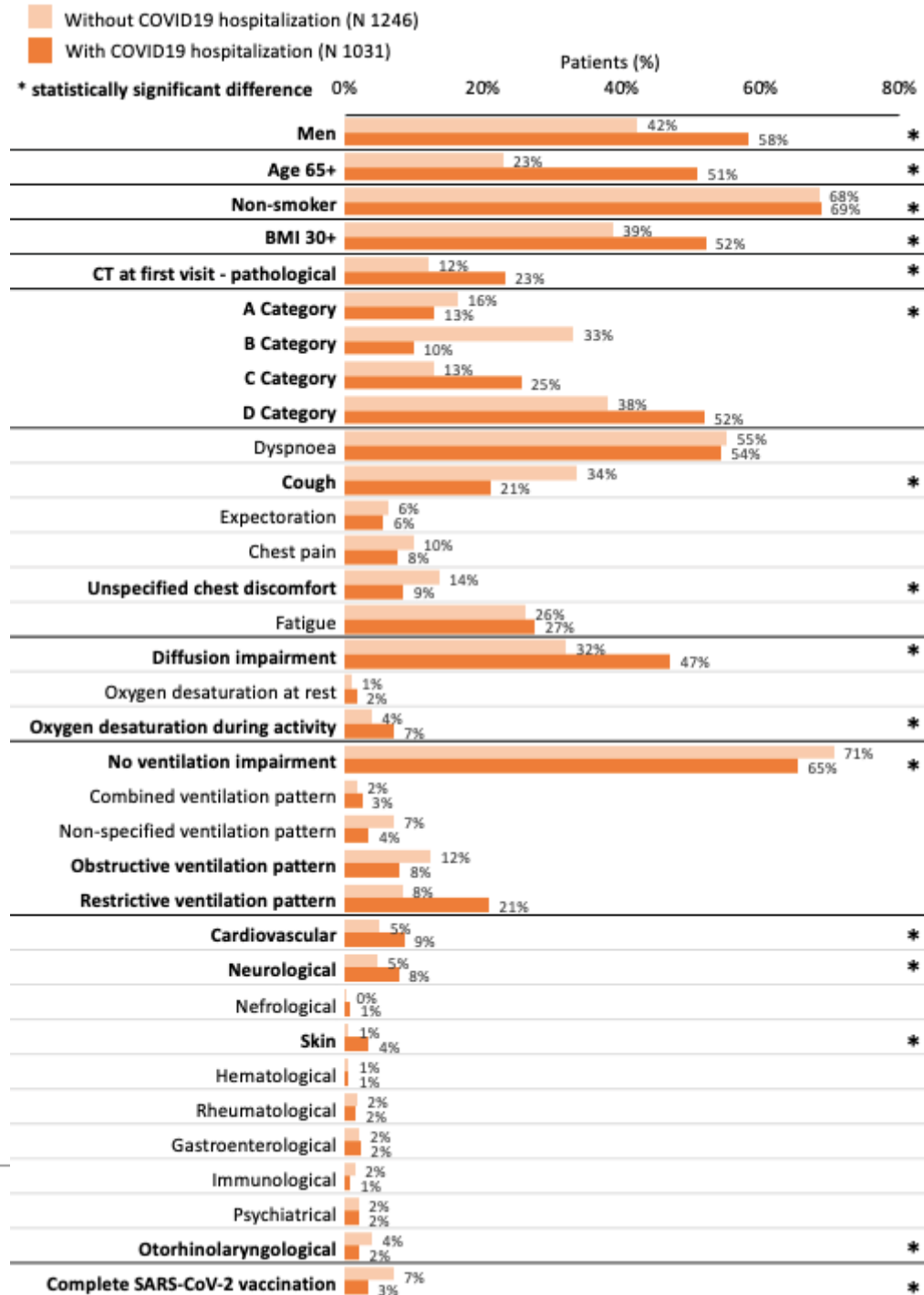


Po roce mohou převládat psychické



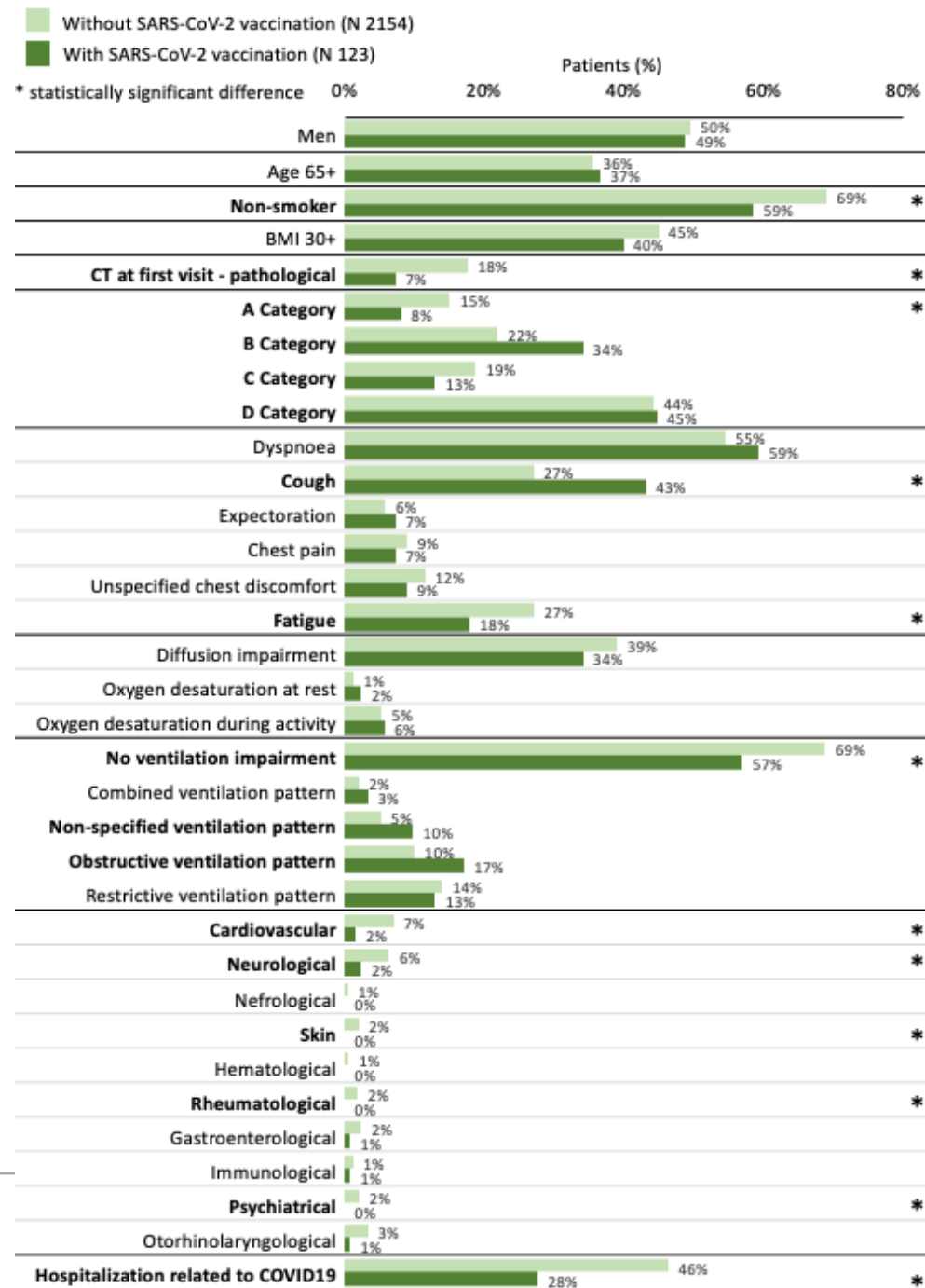
Post-COVID pacienti ČR 10% ambulancí

Mezi pacienty
s post-COVID je
méně
vakcinovaných
osob

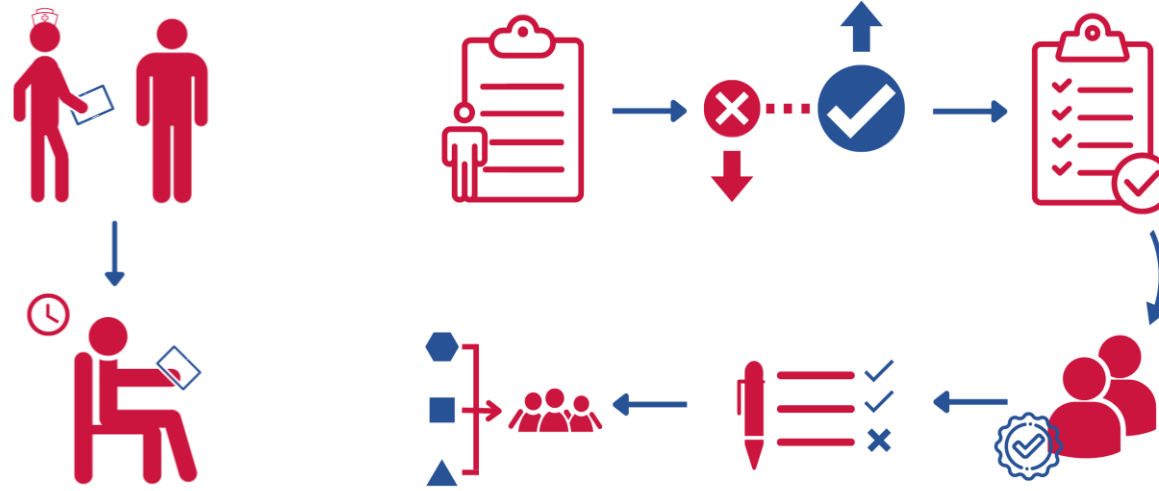


Post-COVID pacienti ČR 10% ambulanci

Mezi
hospitalizovanými
pacienty je více
post-COVID osob



Clusterová analýza FNHK



RESPI+FAT	MUCS+SCE	SKIN	PSYCHIC	RECCUR.IN.	SMELL+TA	THROMB	NERO	com	h2	QUESTIONS
0,874	0,016	0,021	0,029	-0,039	-0,03	-0,028	-0,075	1,027	0,747	6. Do you suffer from the long term fatigue after the COVID?
0,788	-0,009	-0,035	-0,14	-0,008	-0,029	0,065	-0,021	1,086	0,522	3. Are you experiencing worsening shortness of breath after the covid?
0,606	0,06	0,014	0,089	0,009	0,018	0,037	0,003	1,075	0,501	38. Do you not have the energy to perform activities as you did before the illness?
0,583	0,086	0,048	0,097	0,026	0,047	0,007	0,029	1,138	0,539	17. Do you suffer from excessive sleepiness or the need to go to the bed during the day after the COVID?
0,506	-0,036	-0,01	-0,161	0,088	0,052	-0,03	0,062	1,342	0,242	4. Are you suffering from a cough after having covid?
0,423	-0,01	0,005	0,096	0,101	0,026	0,021	0,068	1,295	0,31	1. Do you have feelings of rapid or irregular heartbeat after the experiencing covid?
-0,079	0,912	-0,027	-0,027	-0,022	-0,005	0,038	-0,011	1,023	0,737	32. Are your musculoskeletal problems persisting or worsening after covid disease?
0,018	0,805	0,024	0,004	-0,006	-0,001	-0,004	-0,010	1,003	0,667	34. Do you have new joint pain after covid or has it worsened?
0,156	0,59	0,024	0,013	0,069	0,041	-0,015	0,001	1,186	0,537	33. Do you have new muscle pain or muscle soreness after covid?
0,166	0,587	0	0,029	0,038	-0,023	-0,015	0,071	1,211	0,54	7. Do you notice a deterioration in mobility or sensitivity?
-0,052	0,011	0,766	0,002	0,052	0,008	0,022	-0,060	1,033	0,579	27. Do skin changes persist after covid and have further changes occurred?
0,057	-0,001	0,749	-0,003	-0,035	-0,028	-0,034	0,098	1,058	0,613	26. Did you have an itching type skin change at the time of covid?
-0,005	-0,012	0,726	-0,023	0,044	0,041	0,001	-0,017	1,018	0,531	23. Have you had any skin changes during the covid period?
0,024	0,012	0,487	0,079	-0,033	-0,01	0,062	0,061	1,135	0,308	24. Do you have a burning type skin change at the time of covid?
0,045	0,003	0,021	0,887	0,007	-0,017	-0,038	0,015	1,011	0,833	9. Have you developed any new psychological problems such as anxiety, depression or others after having covid?
-0,012	-0,005	-0,018	0,882	0,023	0,034	0,042	-0,008	1,01	0,796	10. If psychological difficulties have arisen, do they significantly affect your life?
-0,056	-0,001	0,007	0,003	0,757	0,009	0,038	-0,027	1,019	0,548	37. Do you suffer from more frequent severe viruses after covid?
0,053	0,064	-0,009	0,067	0,709	0,007	0,016	0,010	1,047	0,626	35. Do you observe excessive morbidity after covid?
0,053	-0,006	0,057	-0,027	0,536	-0,033	-0,075	0,035	1,104	0,319	36. In the case of antibiotics, do you observe less effectiveness or the need for repeated administration?
-0,022	-0,022	0,015	-0,007	-0,011	1,007	0,007	-0,029	1,005	0,996	30. Do you suffer from a permanent olfactory disorder after covid?
0,075	0,051	-0,022	0,024	0,01	0,573	-0,016	0,090	1,109	0,39	31. Do you suffer from a permanent taste disorder after covid?
0,081	0,036	0,02	-0,011	-0,002	0,01	0,774	-0,009	1,028	0,645	22. Was there a suspicion of vascular involvement after covid (venous inflammation, swelling of one limb, blood clot - thrombosis, embolism)?
-0,056	-0,047	-0,006	0,02	0,02	-0,021	0,535	0,047	1,062	0,285	21. Were you diagnosed with a blood clot at the time of covid (thrombosis, embolism)?
-0,008	-0,034	-0,026	-0,02	0,103	0,011	-0,002	0,684	1,056	0,481	12. Did you have dark or red urine when you have covid?
-0,005	0,081	0,099	0,028	-0,057	-0,007	0,026	0,626	1,11	0,471	11. Did you have decreased urine output during your covid?

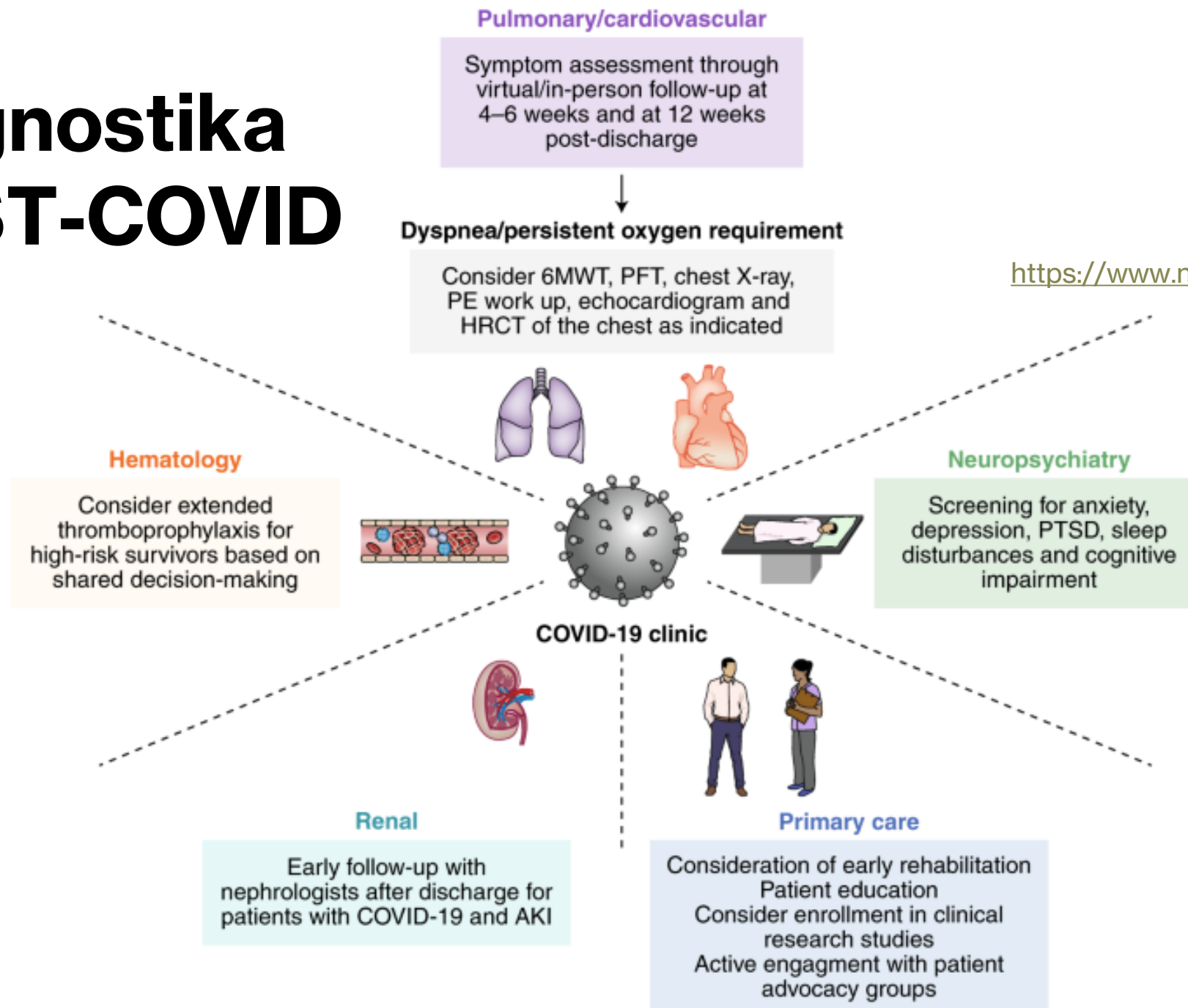
We enrolled 703 consecutive patients (352 males; mean age 53±15yrs; mean BMI 29±5; 222±112days from PCR diagnosis of SARS-CoV-2 infection) from Mar 2021 to Jan 2022.

Two-fifths (272 patients; 39%) of them were initially hospitalized due to severe clinical manifestation of acute COVID-19.

Eight clusters of long-covid symptoms/manifestations (s/m) were identified in this COVID-19 cohort due to a factor analysis: 1.cohort = **respiratory + fatigue** cluster; 2. cohort = **musculo-skeletal** s/m cluster; 3.cohort = **skin** s/m cluster; **4. cohort = psychological** s/m cluster; 5. cohort = **recurrent infections** s/m cluster; 6.cohort = **smell + taste impairment** s/m cluster; 7. cohort = **thrombotic** s/m cluster; 8. cohort = **nephrological** s/m cluster.

Elderly post-COVID patients were more affected by musculoskeletal s/m; less frequently experienced psychical s/m; recurrent infection s/m; smell + taste s/m. **Obese post-COVID** individuals reported more frequently respiratory + fatigue s/m; musculo-skeletal s/m; thrombotic s/m; nephrological s/m. **Educational level** was not associated with the dominance of any s/m cluster. The **Delta SARS-CoV-2** variant predisposed to the dominance of respiratory + fatigue s/m cluster; musculo-skeletal s/m cluster. **Previously hospitalized** suffered more frequently from musculo-skeletal s/m cluster; thrombotic s/m cluster; less frequently from smell + taste s/m cluster.

Diagnostika POST-COVID

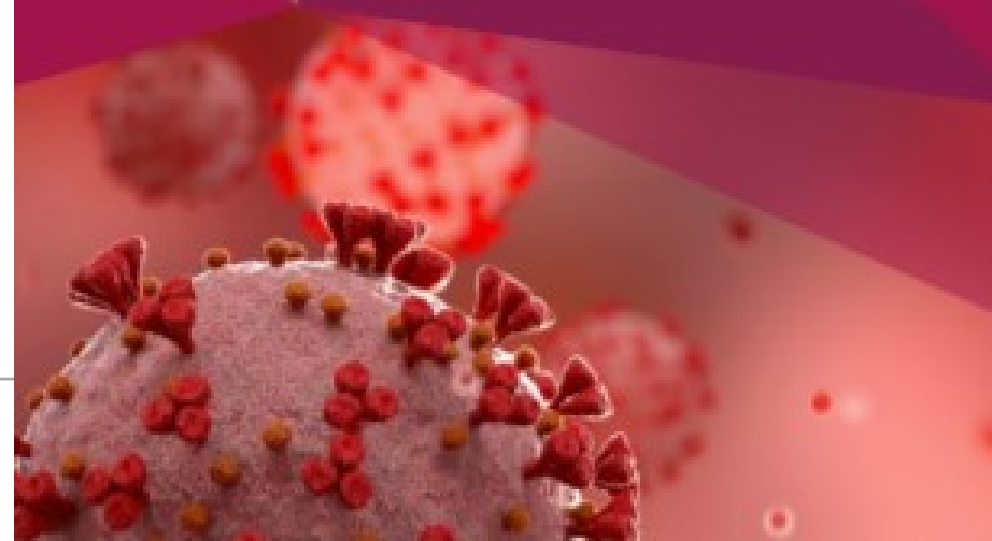


Terapie POST-COVID

- Komplexní plicní rehabilitace
- FZT + aerobní zátěž + silový trénink
- Pomalu a vytrvale
- Metody pro domácí rehabilitaci
- KS, ATB, inhalační léky, mukoaktivní medikace
- Vyloučení komorbidit a jiných příčin obtíží v post-COVID období
- Nově zkoumané preparáty

MOŽNOSTI REHABILITACE U PACIENTŮ PO PRODĚLANÉM ONEMOCNĚNÍ COVID-19

EDUKAČNÍ MATERIÁL PRO PACIENTY ◀



1

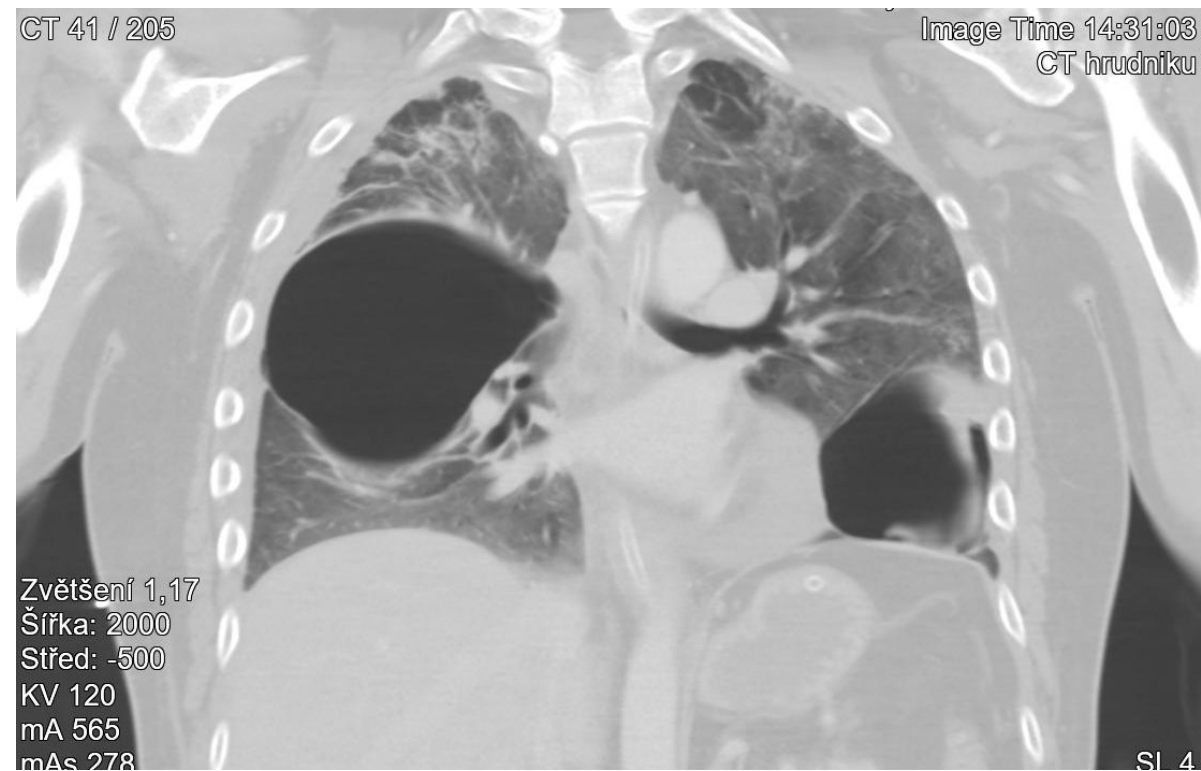
Muž 45 let

Plicní postižení po 3M od COVID-19



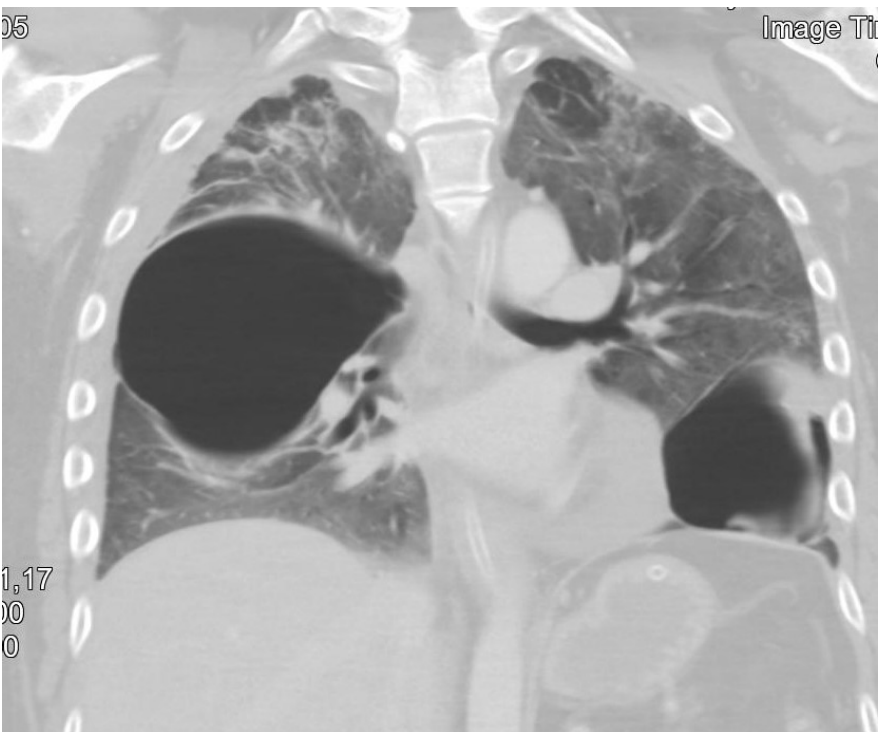
1

Nález po 7M od COVID-19



1

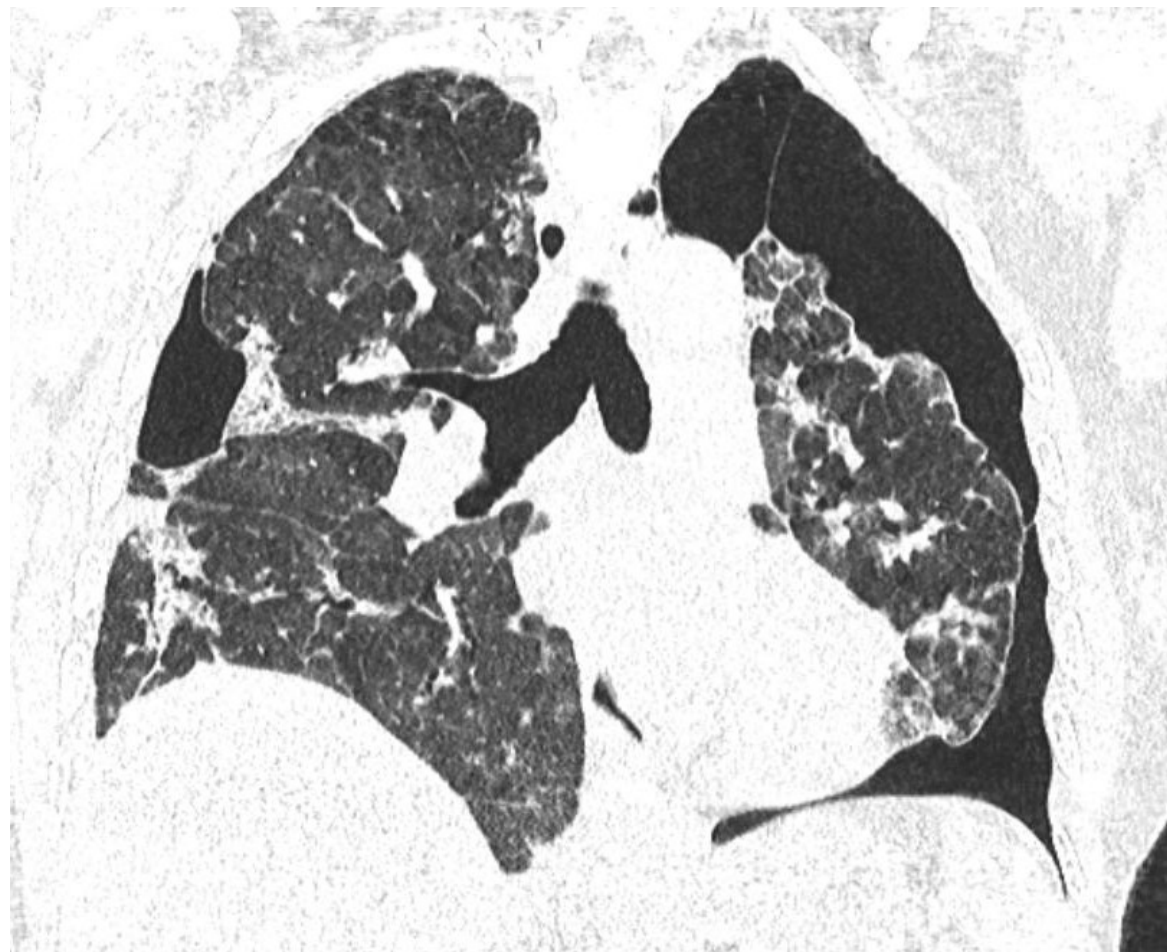
Stav po 14M



2

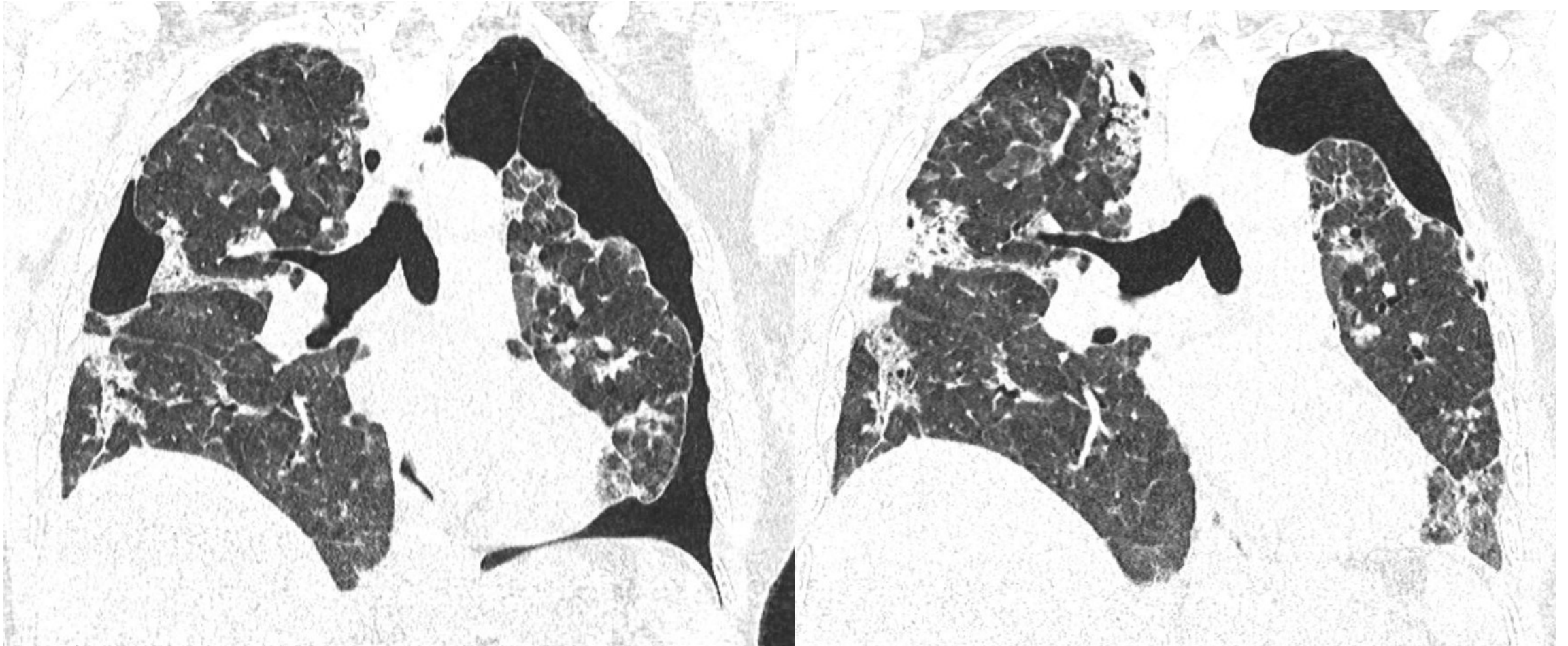
Žena 51 let

Plicní postižení po 4M od COVID-19



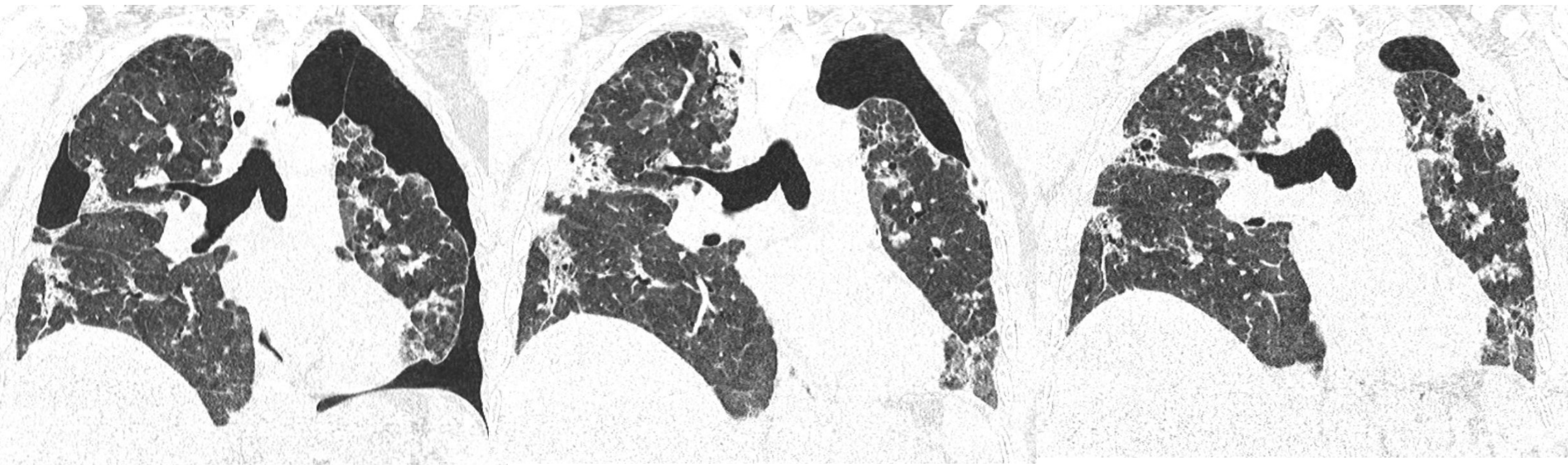
2

Po 8M od vzniku COVID-19



2

Postižení po 12M od COVID-19



3

Dušnost bez postižení struktury a základních funkcí plic – 1M+3Ž



3





4

Diskrétní dušnost rekreačního sportovce

- Muž 43 let, lehké astma, alergie, st.p. HŽT PDL 2017, sportovec (běhá 20-40km)
 - Covid-19 10/2020
 - porucha čichu, únava, jednorázově 37,3°C, 4 dny bolesti hlavy, suchý kašel
 - Po 5 týdnech návrat ke sportu
 - **Pravidelný běh však pouze 5-10km**
 - Vyšetřen PL a alergologem
 - **Po 5 měsících stále max 10km, více nezvládne + vyšší TF i při menší zátěži (chůze do schodů – 130bpm)**
-

Klasifikace B (či A) dle toho jak podrobně se ptáme

- Klinicky – norma, SpO2 98%, TF 75/min, TK 130/80
 - Funkční vyšetření vč. TLco – norma
 - RTG plic – norma
 - 6MWT: 630m
-

Klasifikace C pokud provádíme 6MWT s měřením SpO2

- Klinicky – norma, SpO2 98%, TF 75/min, TK 130/80
 - Funkční vyšetření vč. TLco – norma
 - RTG plic – norma
 - 6MWT: 630m
 - ALE: **SpO2 97–95–94–91–92%**
-

Časté komplikace jsou časté

- Klinicky – norma, SpO2 98%, TF 75/min, TK 130/80
 - Funkční vyšetření vč. TLco – norma
 - RTG plic – norma
 - 6MWT: 630m
 - SpO2 97–95–94–91–92%
 - D-dimery: **4,2 mg/l**
 - CT Ag: **rozsáhlá oboustranná plicní embolizace**
-

4

Rychlá normalizace

PE má cenu hledat - pokud se průběh nezlepšuje

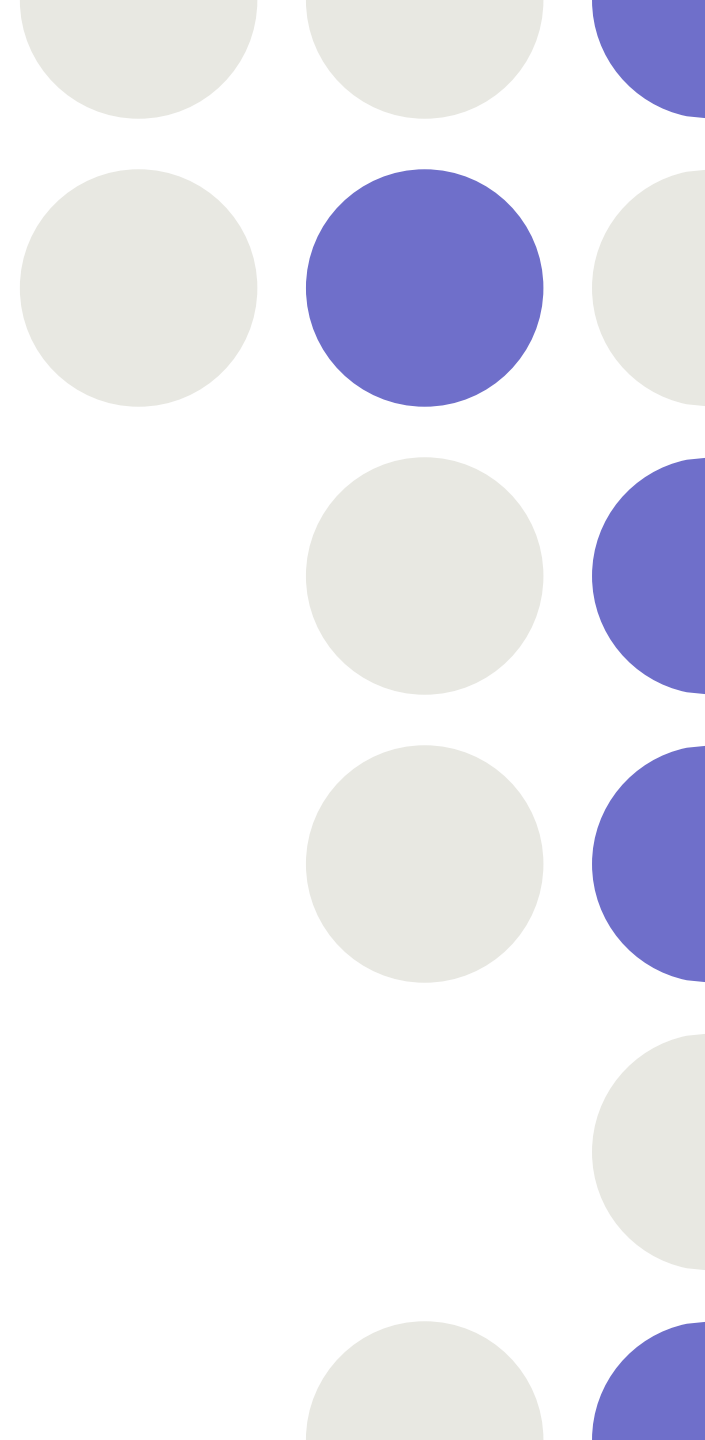
- Aplikován Fraxiparin
- Od druhého dne Xarelto, dispenzarizován angiologem
- Za 3 měsíce zcela bez obtíží, sportuje
- plicní funkce v normě
- **6MWT: 660m, SpO2 96–96–96–96–96%**



1/2 roku post-COVID

Karlovy Vary – Hradec Králové

- Ambulantní forma post-COVID
 - Kašel (suchý) a dušnost
 - Po více jak 6M první zobrazovací vyšetření hrudníku
-





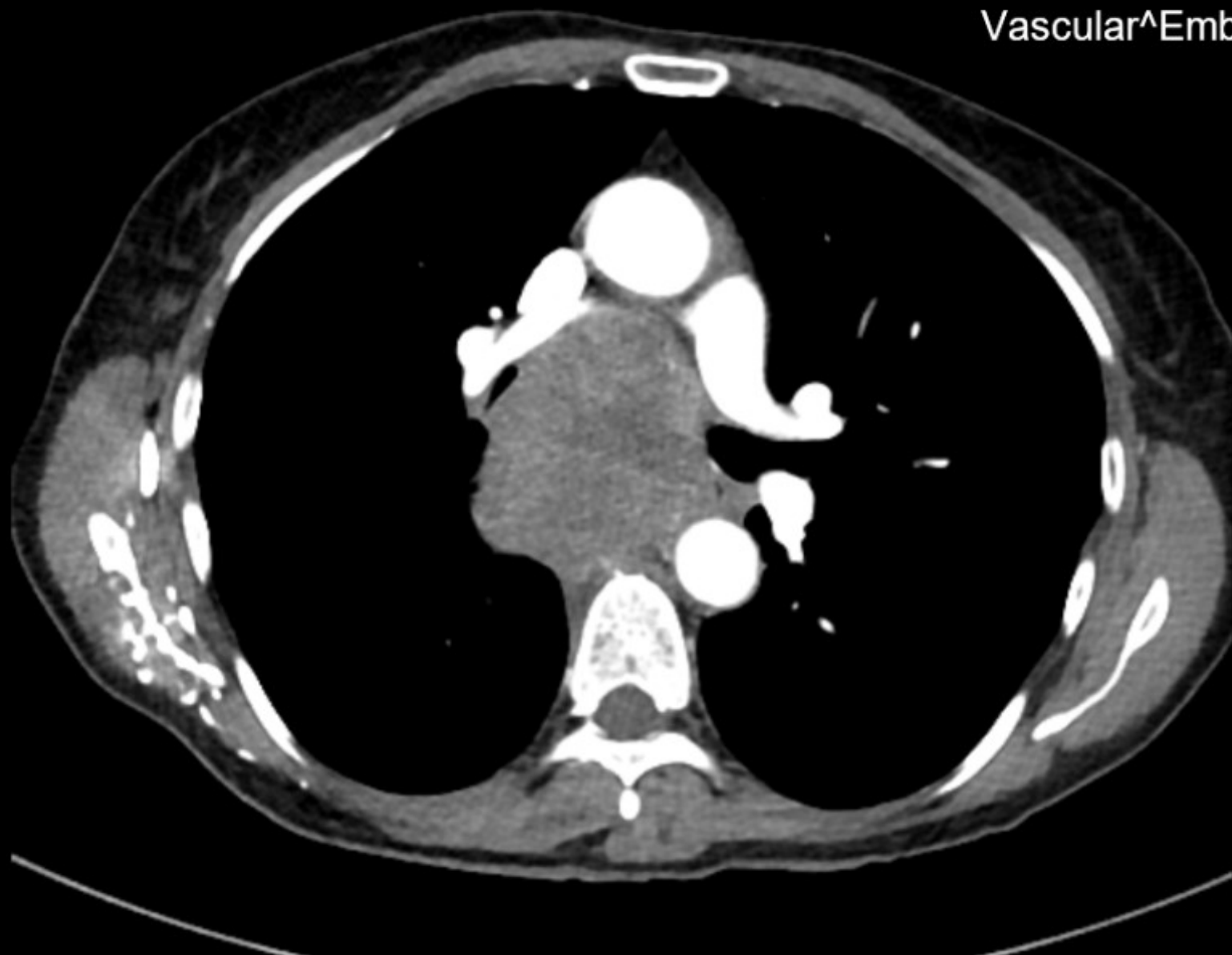
xxx
ID
D.O.Birth
Age
Sex
Comment

Dr.
FNHK
1/2

Please replace the lamp.

6157071195
CT 41 / 4

Study 2022-09-22 / 13:47:08
Image Time 13:50:48
Vascular^Embolie_nad_40 (Adult)



Zvětšení 1,60
Šířka: 395
Střed: 65
SP -1012.7
KV 80
mA 239

Stručné shrnutí pro praxi



FORMY POST- COVID



**Menší riziko
post-COVID
po vakcinaci**



Težká nemoc (hospitalizace, O₂, HFNO, NIVP, UPV, ECMO) – “plicní post-COVID” s destrukcí plíce a s mnoha dopady dlouhé hospitalizace (neuropatie, myopatie, mykózy, opakovaná pozitivita PCR)



Lehká nemoc (převážně ambulantně léčená) – hyperventilace nasedající na post-COVID, psychické obtíže, nejasná vazba, rizika špatné dg., naopak škodlivé bagatelizace



Již před COVID-19 chronická respirační nemoc a nyní sumace COVID-19 a plicní nemoci: IPP, CHOPN, karcinom, TRA, CF, non-CF BE



Jiná nemoc = ne vše po COVID je post-COVID
Neboli na COVID navazující komorbidity (COVID like)

Závěr

Syndrom či dlouhodobé následky (někdy bez symptom) po onemocnění COVID-19

Nejsou dosud zcela pochopeny

Mohou postihovat různé orgány v lidském těle

Obvykle mají lehký průběh a tendenci k postupnému zlepšování

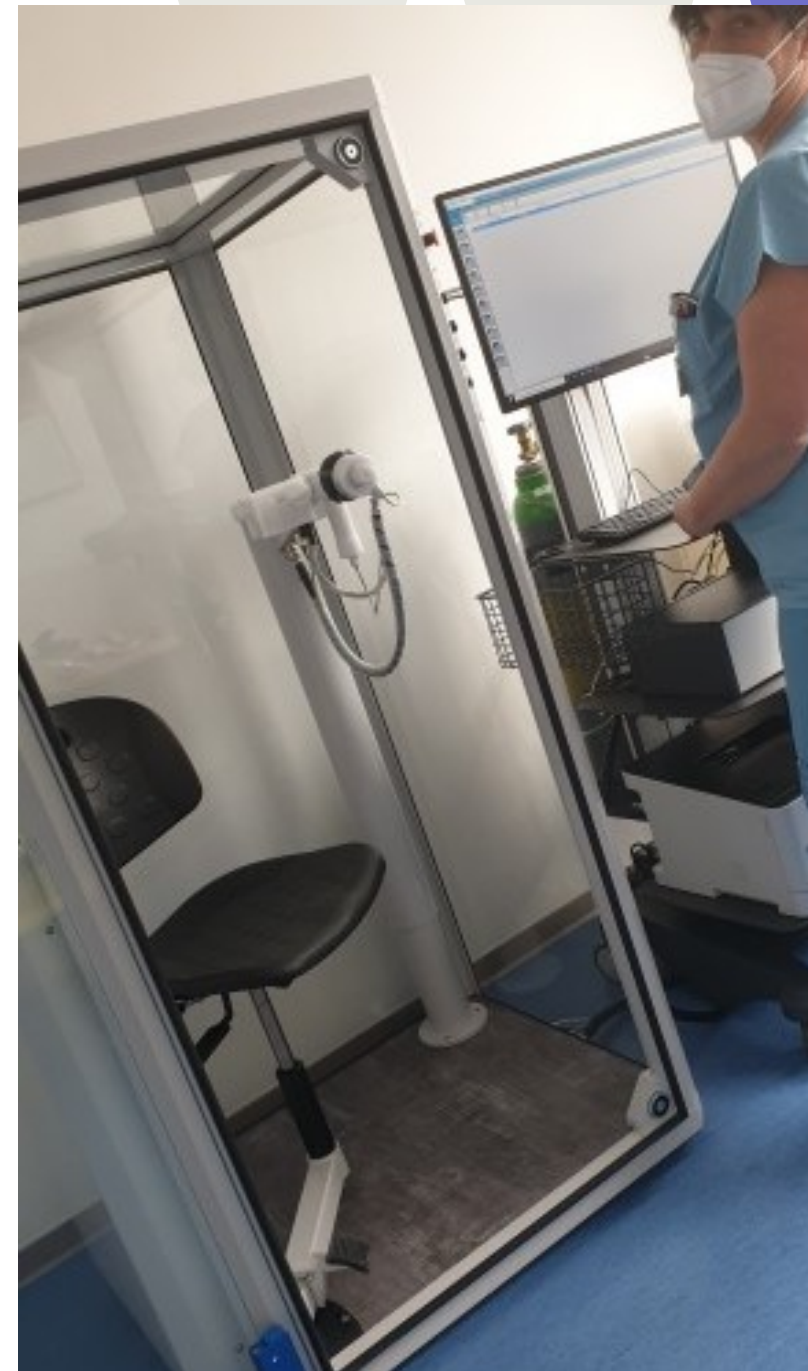
Nicméně mohou být i progresivní a mohou vést k nevratnému poškození organismu

Možnost persistence, fluktuace a relapsů POST-COVID následků

Výzkum a sledování reálných pacientů v delším čase = nezbytné



**FN HK od 1.3. 2020
>1.800 post-COVID pts
4.001 hospital. s akutním COVID**



May 27, 2022

COVID-19 in 2022—The Beginning of the End or the End of the Beginning?

Carlos del Rio, MD^{1,2}; Preeti N. Malani, MD, MSJ^{3,4}[» Author Affiliations](#) | [Article Information](#)*JAMA*. Published online May 27, 2022. doi:10.1001/jama.2022.9655

While many questions remain about the future of the pandemic, it is clear that SARS-CoV-2 will not be fully eradicated. This means continuing to adapt to life with COVID-19 and recognizing that during the next phase of the pandemic, there will be times when community transmission will be low and precautions can be “dialed down” and times when increased transmission will require mitigation efforts to be “dialed up.”

If COVID-19 moves toward endemicity, then it should not disrupt everyday life. However, with ongoing transmission and with an estimated 10% to 30% of individuals experiencing long COVID symptoms after infection, this issue will require careful attention to further define the syndrome and possible intervention (such as the RECOVER cohort study at the National Institutes of Health). Data suggest that vaccination can decrease the risk of long COVID and thus continuing to focus on improving vaccination rates must remain the cornerstone of COVID-19 prevention and mitigation not only locally, but globally.

Co třeba dělat lépe?

AKTUALIZOVÁNO Praha / Karlovy Vary 20:17 9. 1. 2021 (Aktualizováno: 21:23 9. 1. 2021)



Na jednotkách intenzivní péče v Karlovarském kraji chybí lůžka. ilustrační foto | Foto: David W. Černý | Zdroj: Reuters

THE JERUSALEM POST NY CONFERENCE ISRAEL NEWS HEALTH & WELLNESS WORLD NEWS MIDDLE EAST

The hospital inaugurated hundreds of beds in a new intensive care unit that will help provide crisis response in times of national emergencies.

By MAAVAN HOFFMAN Published: MAY 7, 2020 19:54



(photo credit: COURTESY - SHEBA MEDICAL CENTER)

Predictor	Category	ICU		ICU or death (SC)	
		OR (95% CI)	p	OR (95% CI)	p
Sex Ref = male N = 80,065	Female N = 73,718	0.66 (0.65–0.68)	<0.001	0.63 (0.62–0.64)	<0.001
	Age Ref = 40–49 years N = 12,126	50–59 N = 18,185	1.27 (1.20–1.35)	<0.001	1.29 (1.22–1.37)
	60–69 N = 32,469	1.51 (1.43–1.59)	<0.001	1.67 (1.59–1.76)	<0.001
	70–79 N = 49,793	1.25 (1.18–1.32)	<0.001	1.93 (1.83–2.03)	<0.001
	80+ N = 41,210	0.56 (0.52–0.59)	<0.001	2.48 (2.35–2.61)	<0.001
DCCI Ref = 0 points N = 17,751	1 point N = 21,781	1.10 (1.05–1.16)	<0.001	1.14 (1.09–1.20)	<0.001
	2 points N = 22,709	1.18 (1.12–1.24)	<0.001	1.30 (1.24–1.37)	<0.001
	3–4 points N = 39,203	1.23 (1.17–1.28)	<0.001	1.50 (1.44–1.56)	<0.001
	5+ points N = 52,339	1.14 (1.09–1.20)	<0.001	1.90 (1.82–1.98)	<0.001