

Using natural extracts in the fight against COVID-19 and its sequelae.

Dra. Tamara Rubilar

2020

Today

Pandemic needings

SARS
COV-2



Science Ministry & Government asked
Cientific comunity for help



2020

Today



Global health, biodiversity, and therapeutics innovation:
A South-to-South and South-to-North Collaboration



Dr. Donald Pfister
Harvard University

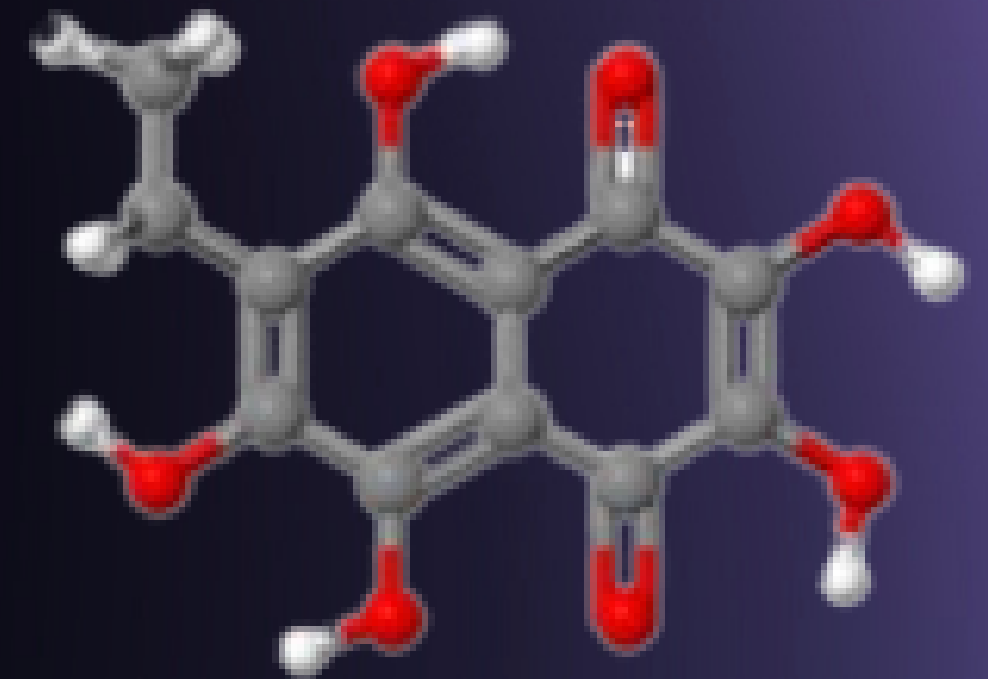


Dra. Verónica Vargas
Harvard University



Dr. Cristian Desmarchelier
MinCyT-Argentina

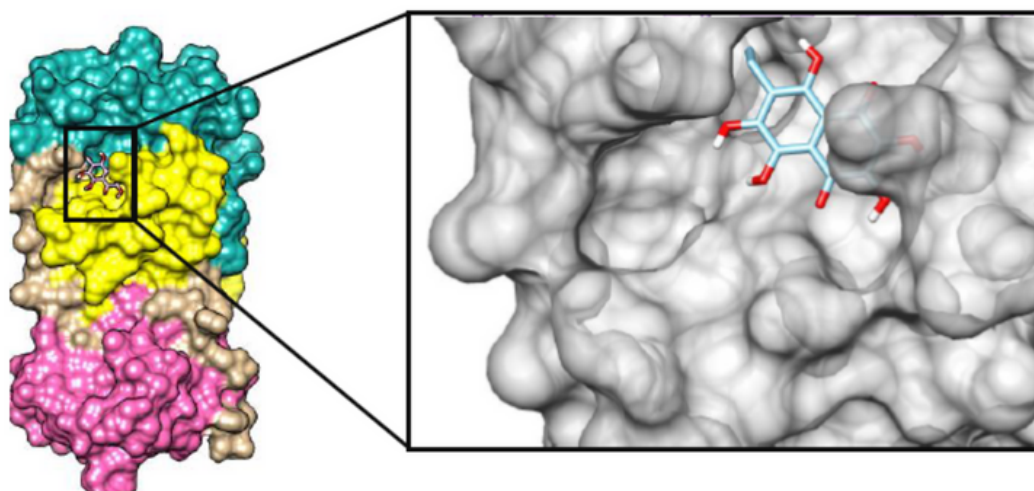
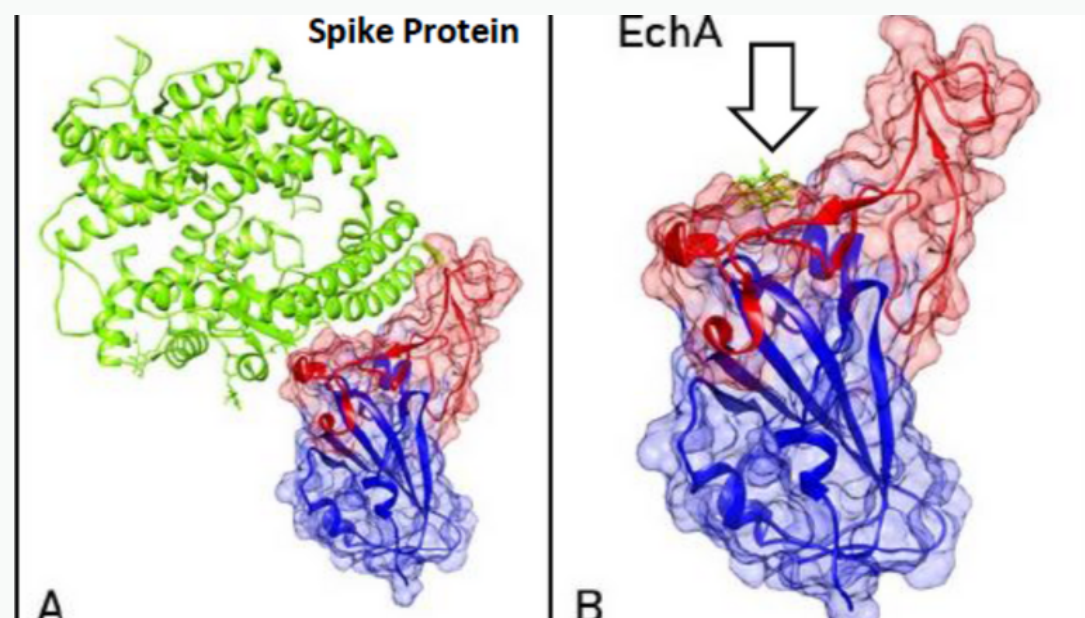
Our Hypothesis



ECHINOCHROME A

1

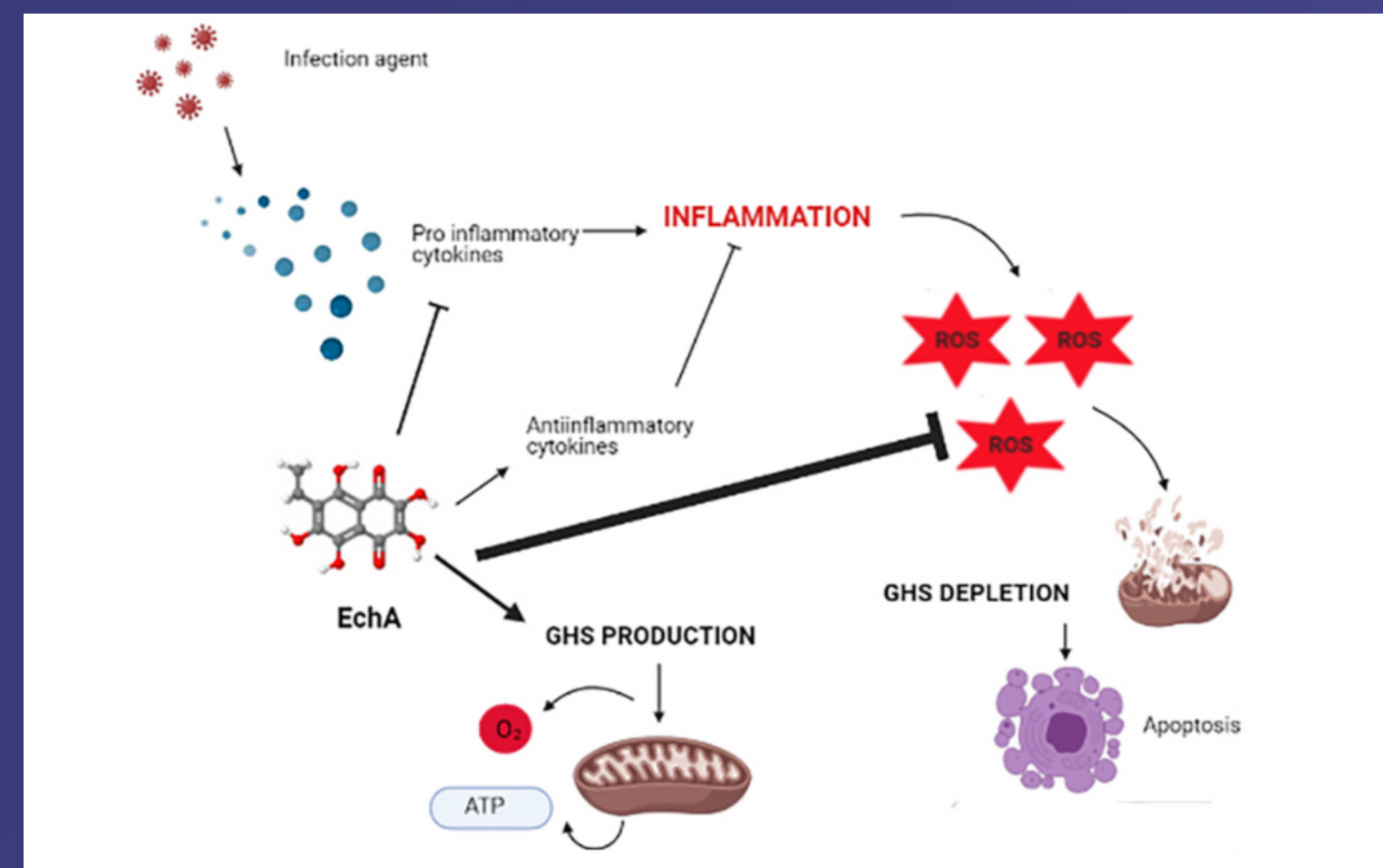
Decrease of viral charge
by docking Spike
protein (junction)
or Mpro Protein (replication)



doi: [10.26434/chemrxiv.12568595.v1](https://doi.org/10.26434/chemrxiv.12568595.v1)

2

Decrease ROS, immunological
response and inflammation

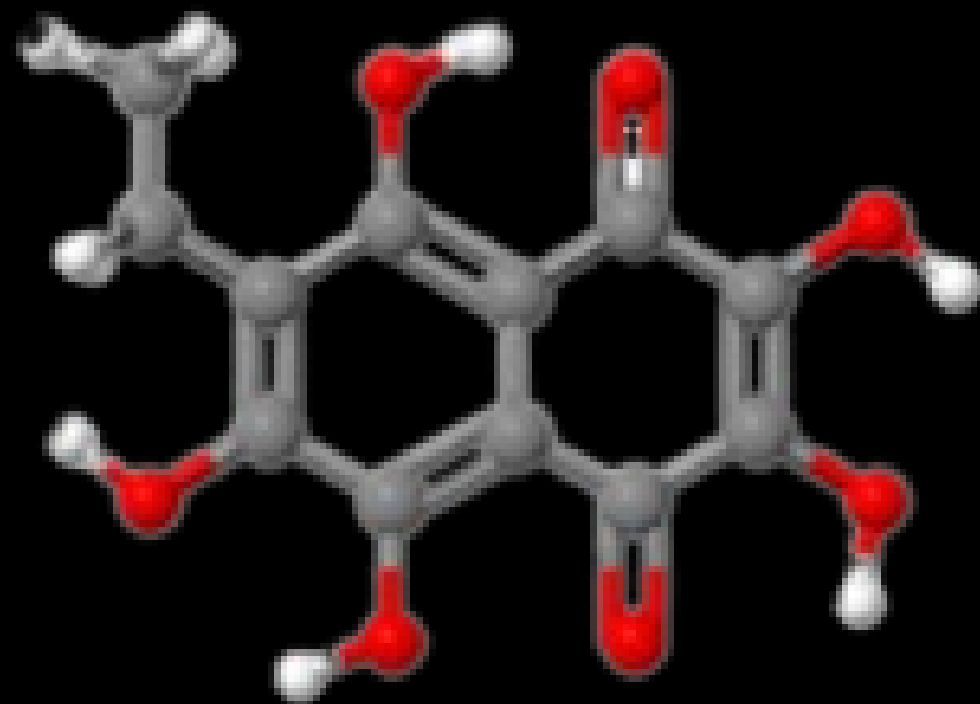


<https://doi.org/10.3390/md19050267>

2020

Today

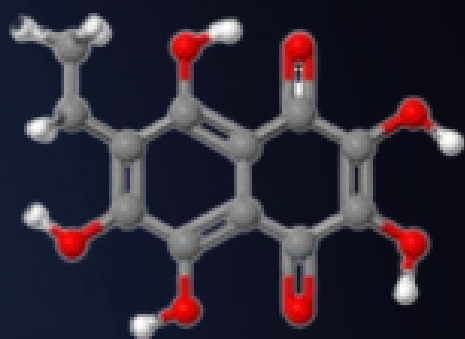
ECHINOCHROME A



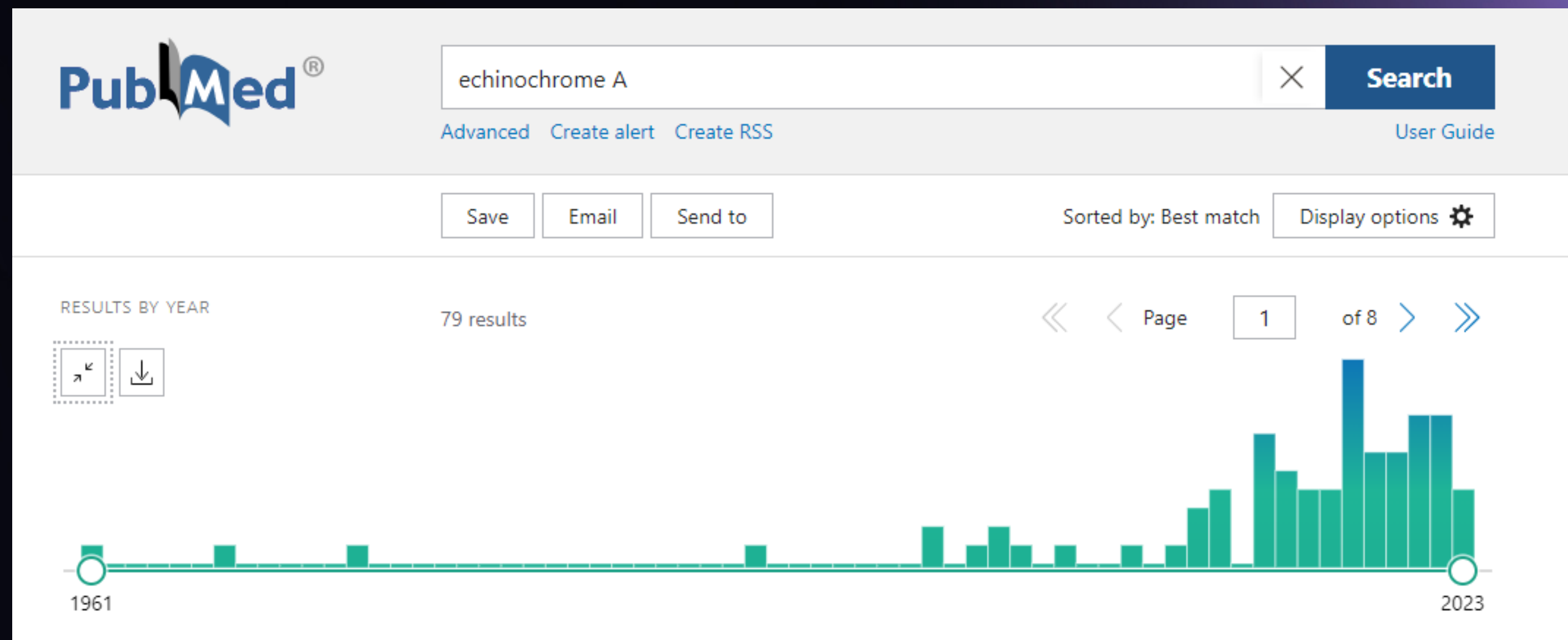
Sea urchin Eggs
Arbacia dufresnii

EriSea





Antioxidant
Anti-inflammatory



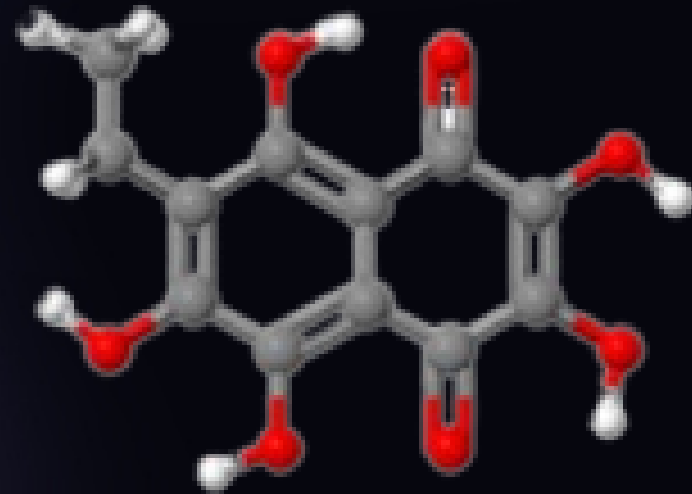
More than 40 years of physiological,
pharmacological and clinical effect

Two pharmaceutical drugs in the market

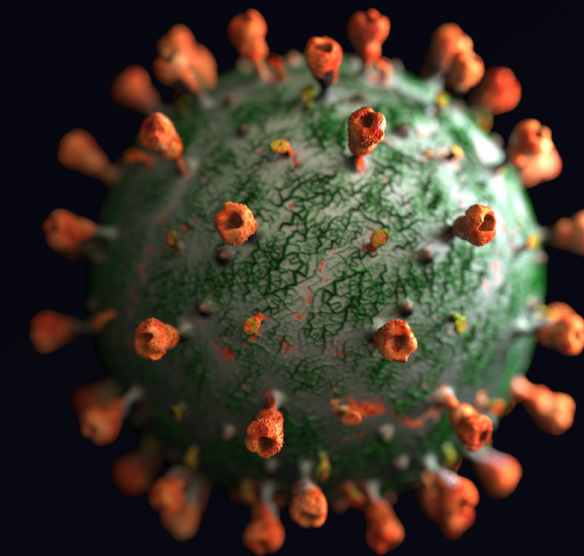
2020

Today

ECHINOCHROME A



BOVINE CORONAVIRUS



Pretreatment with
EchA inhibited

- 25% intracellular viral charge
- 60-100% extracellular viral charge (dd)

Even without pretreatment,
EchA diminished 20% intracellular viral charge

Dr. Silvina Maidana



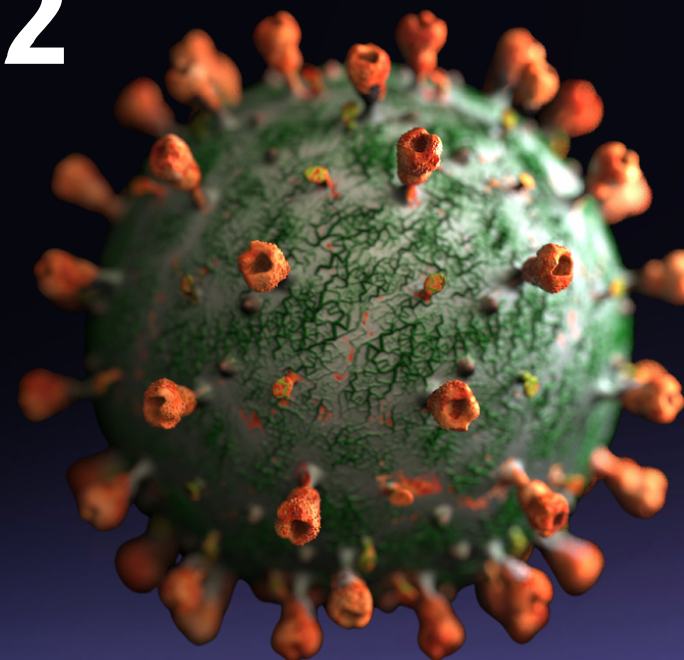
2020

Today

We joined to the Harvard Project
analyzing 135 species...

**>10% of antiviral activity
in many of them**

SARS COV-2



Dr. Dik Jochmans



KU LEUVEN

Lomentaria cavellousa
Pododesmus lelloides
Codium vermilara
Hormodermoporis martius
Cylindrotheca sp
Munida gregaria
Mimosa detinens
Poppostipa sp
Larrea divaricata
Grindelia chiloensis
Pyroformes perievis
Gloeophyllum erubescen
Phellinus chaquensis
Arbacia dufresnii
Anasterias minuta
Perezia recurvata - blade (rosette)
Prosopis ruscifolia "Vinal"
Solanum argentinum "Afata"
Prosopis vinalillo "Vinalillo"
Schinus areira "Aguaribay"
Lippia tubinata "Poleo"
Jodina rhombifolia "Sombra de toro"

2020

SARS COV-2

Today

KU LEUVEN



Pretreatment with EchA

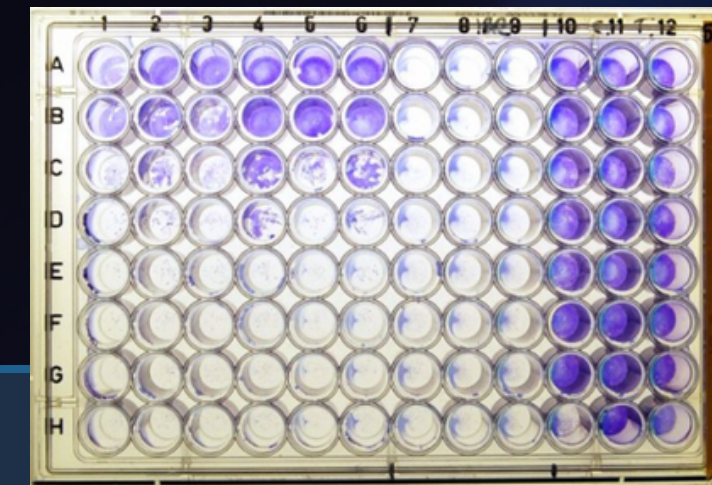
- 20% inhibition of extracellular viral activity

Seroneutralization

- 20 - 25% inhibition of intracellular viral activity



- 20 - 25% inhibition of viral activity



2020

December
18th

Today

EriSea



Lic. Marisa Avaro



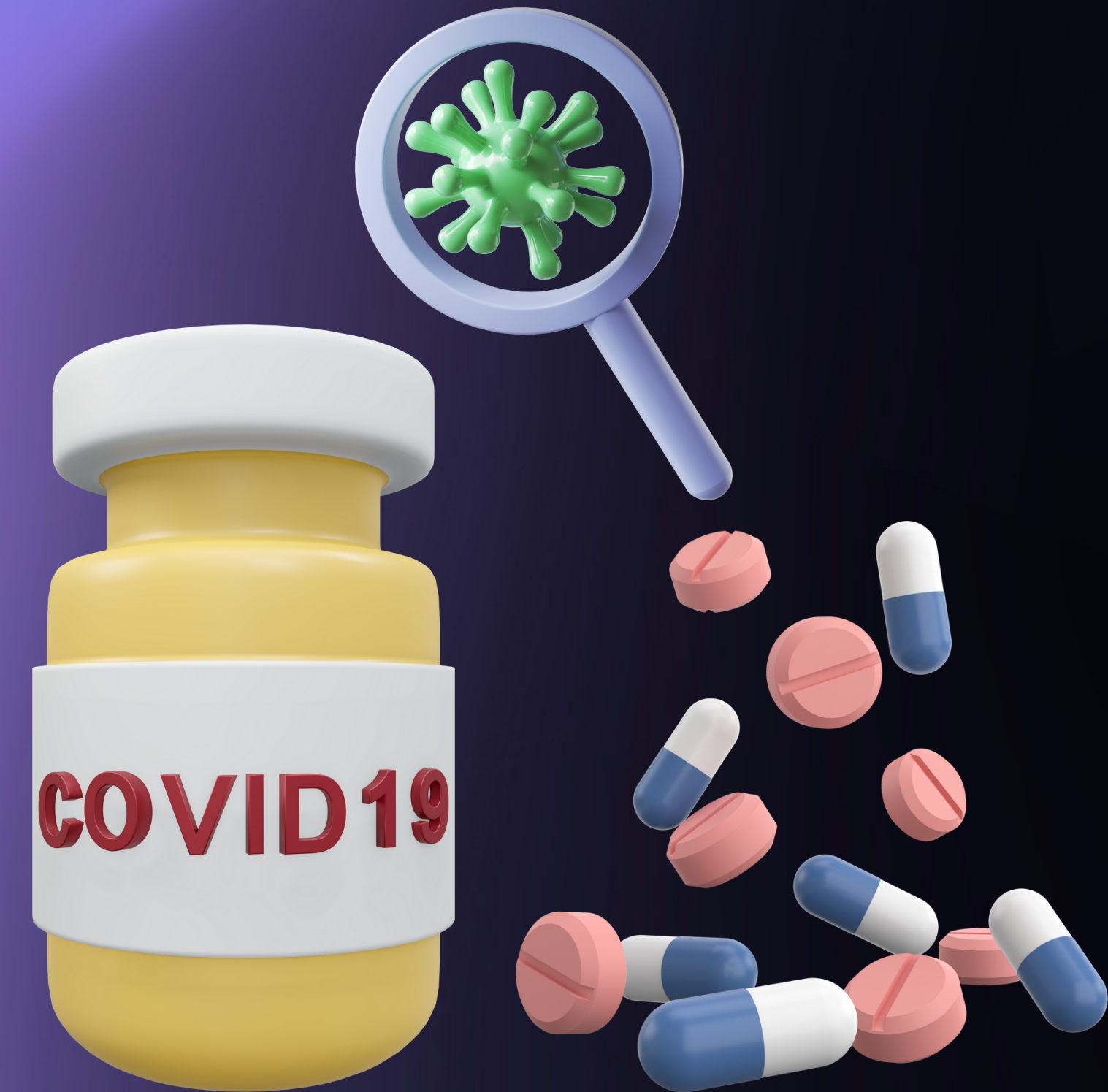
Dietary Supplement EchA Marine rich in Echinochrome A

2020

Today

HOWEVER...

Vaccines therapy



So much work appeared to be wasted...

A horizontal timeline arrow pointing to the right, composed of five segments in shades of blue and teal.

2021

Today



**Dr. Gabriela
de Larrañaga**



Hospital de Infecciosas
Francisco J. Muñiz

CONSEQUENCES OF COVID

COVID sequelae?

COVID long-term effects?

Long COVID?

Post COVID?



Long COVID



UNMET MEDICAL NEED



FATIGUE



**HEADACHE AND
MUSCULAR PAIN**



**DIFICULTY
BREATHING**



**CARDIAC
ABNORMALITIES**



**COGNITIVE
IMPAIRMENT
INSOMNIA**



**GASTRIC
ABNORMALITIES**



HAIR LOSS



**ANXIETY AND
DEPRESSION**

See at <https://recovercovid.org/long-covid>

I Congreso Iberoamericano

LONG COVID Y SU IMPACTO SOBRE LAS ENFERMEDADES CRÓNICAS



Treatments are not standarized and have not been effective

"COVID-19 pathology is still characterized by cytokine storm that results to endothelial inflammation, microvascular thrombosis, and multiple organ failures".

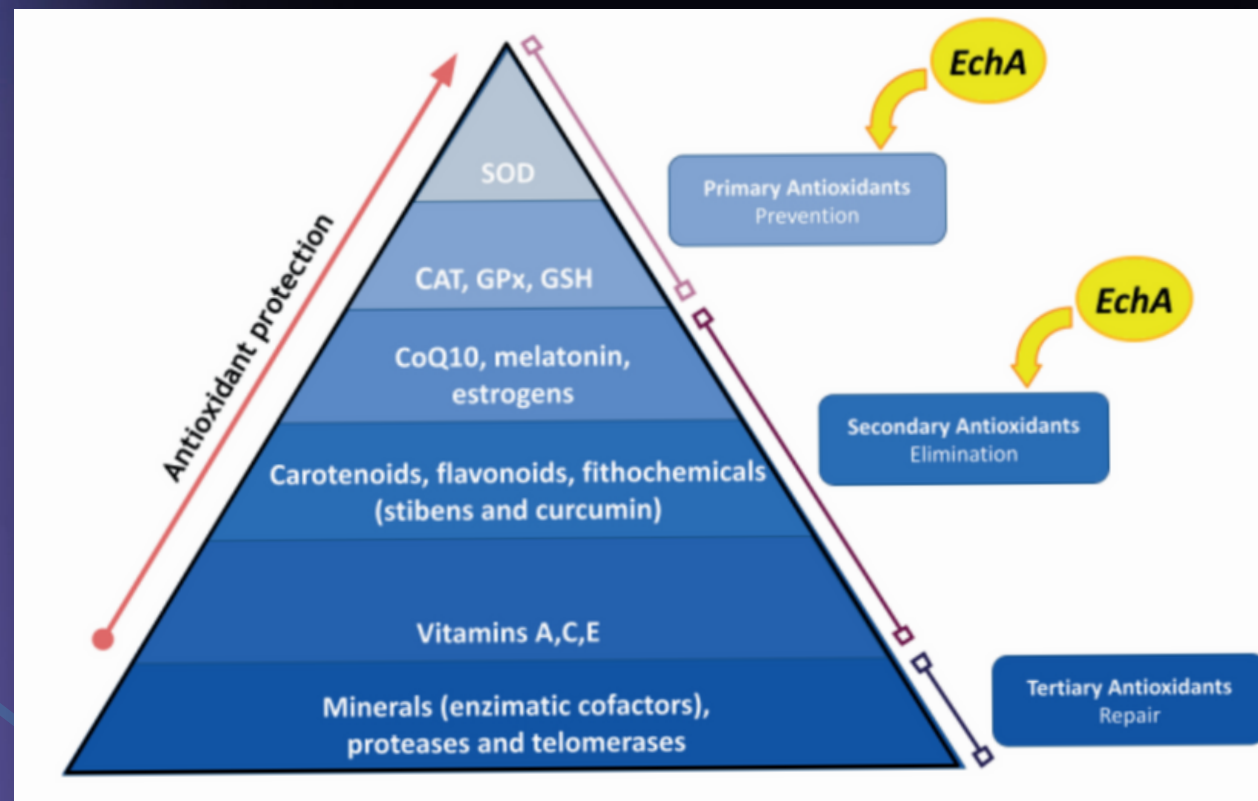


Andrade et al., 2021

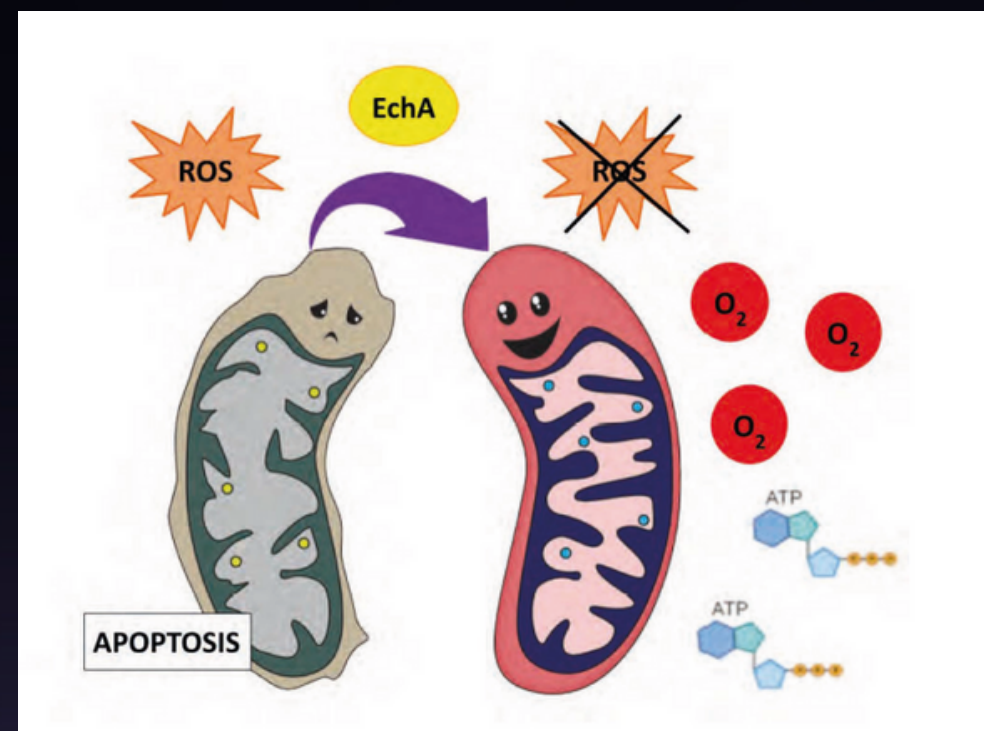
Restore immune balance
Decrease cellular inflammation
Decrease oxidative stress

ECHINOCHROME A

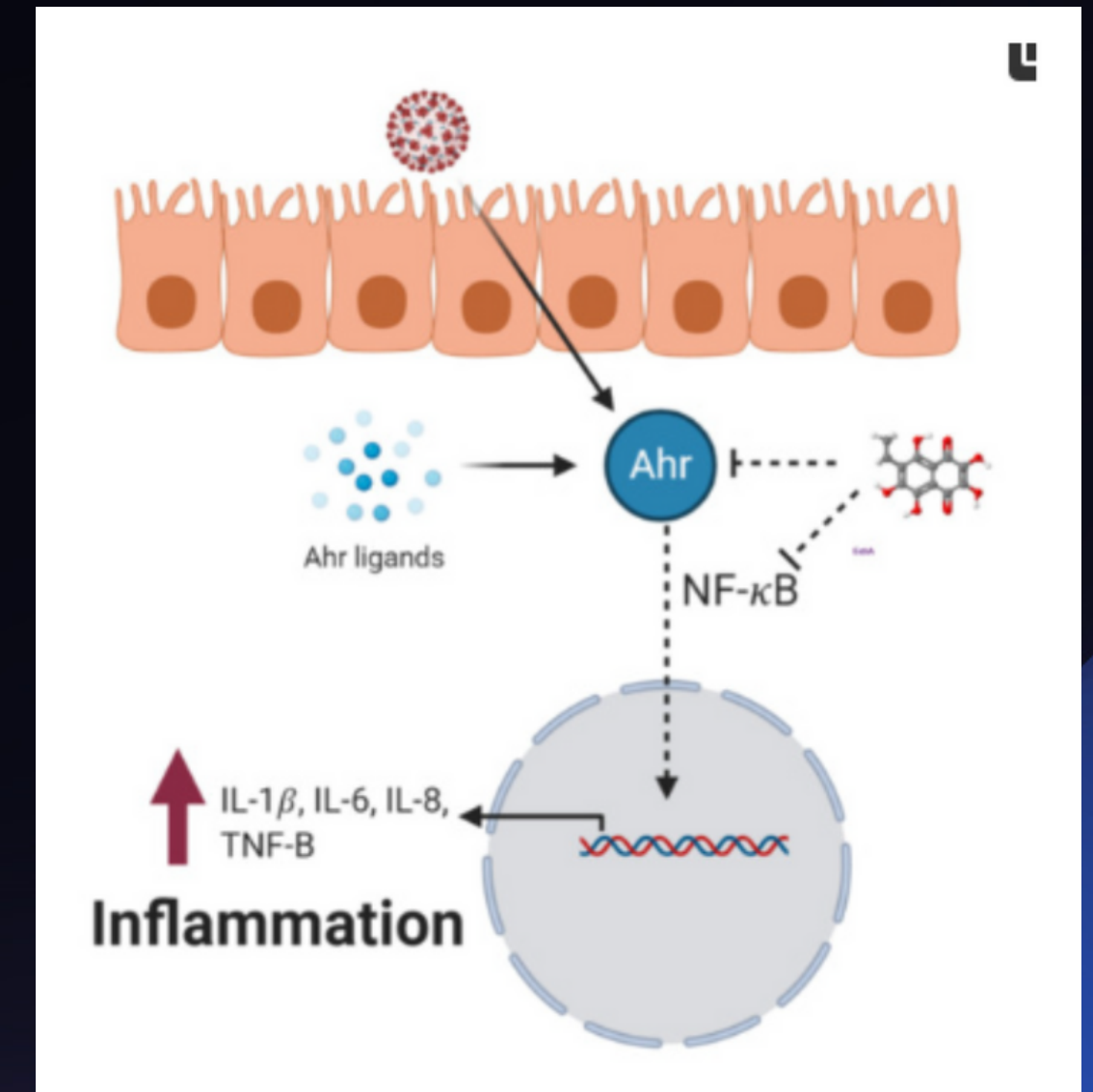
STABILIZES OXIDATIVE
STRESS



REVIVES
MITHOCONDRIAS



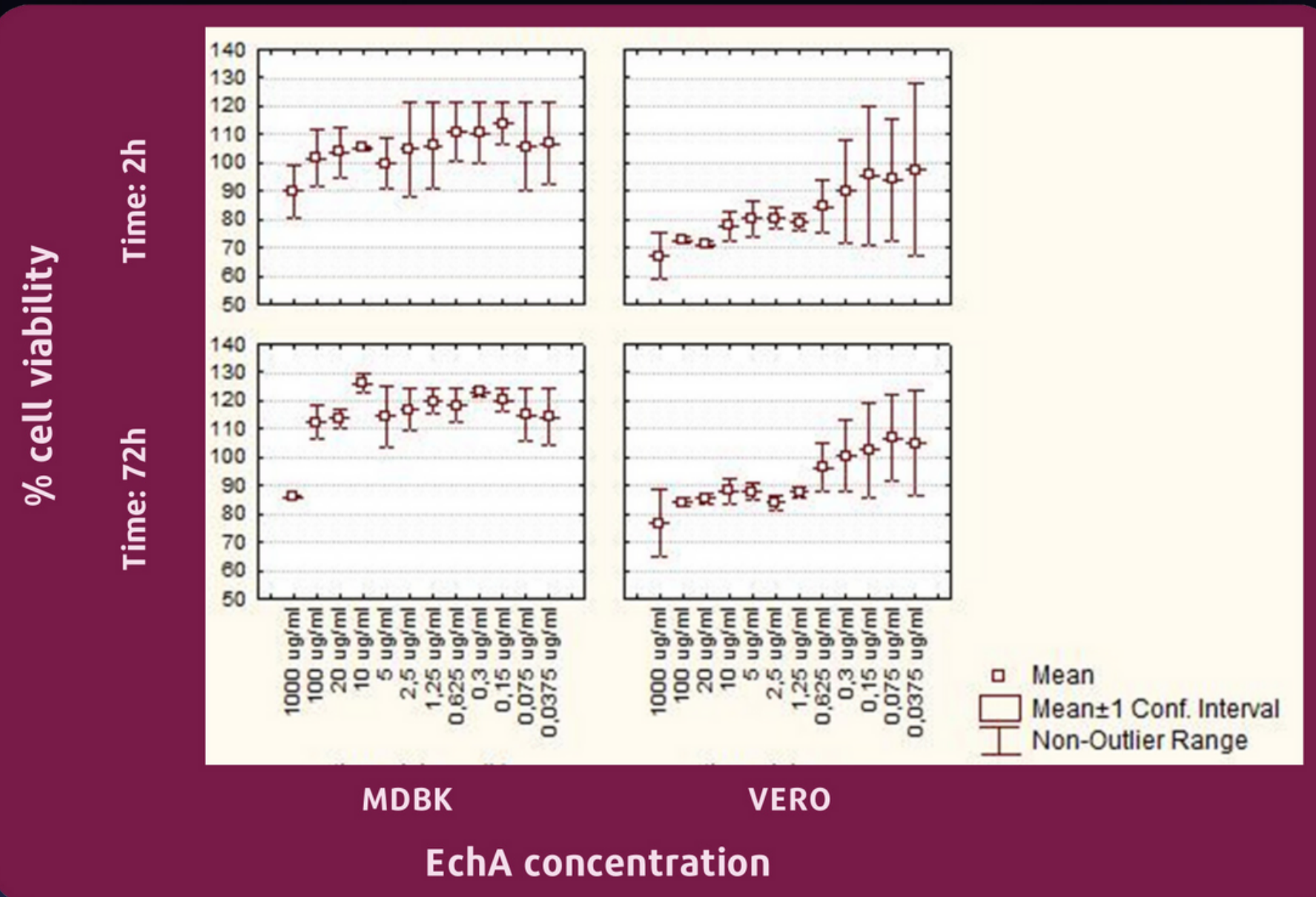
REDUCES CELLULAR
INFLAMMATION



Today

2021

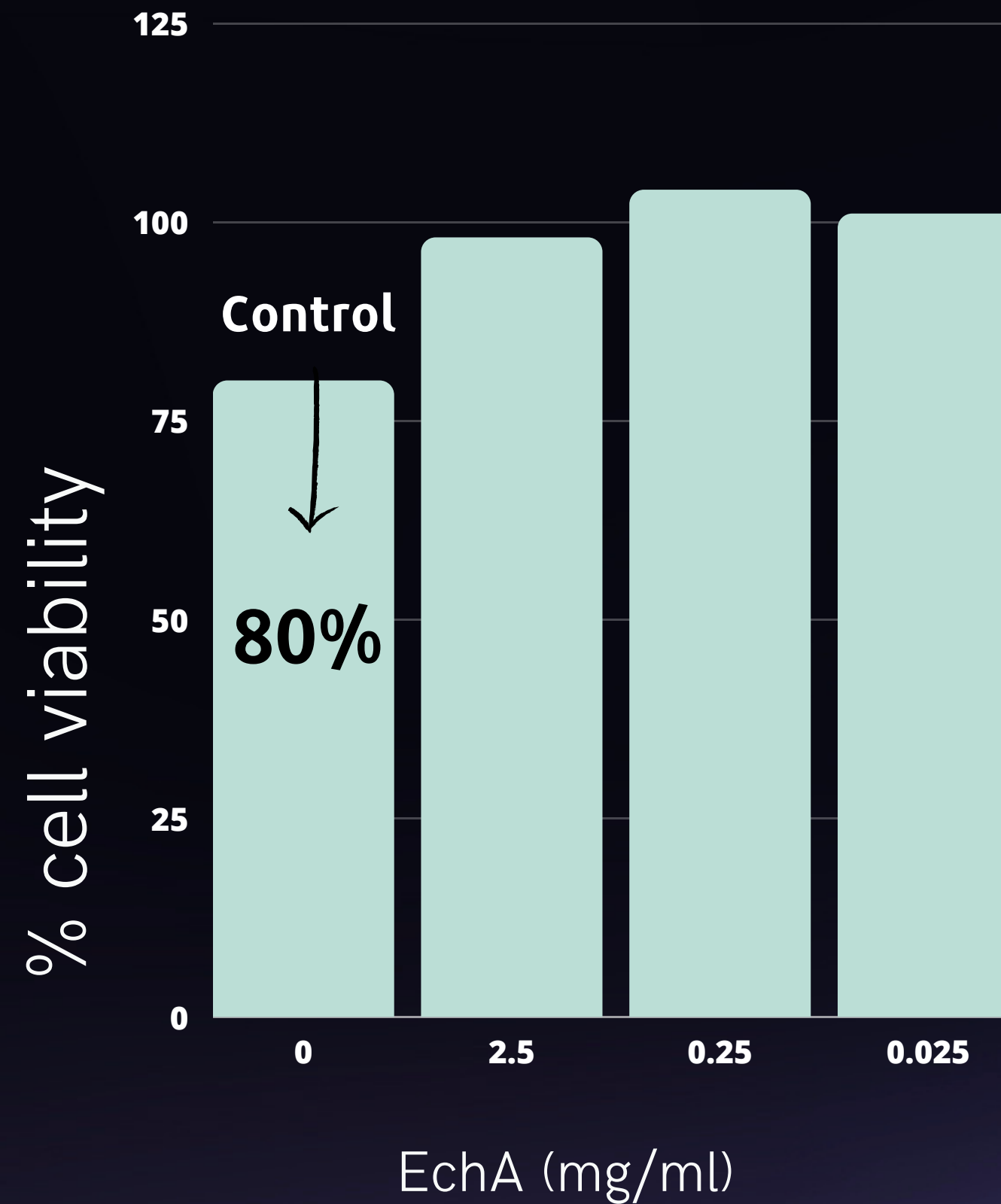
Further in vitro analysis



Only 1 trial reported less than 70% of survival and cell viability exceeds the control at least by 20% ($p < 0.0001$)

2021

Today



Confirmed results of
increase cell viability



ECHINOCHROME A

for Long COVID?

Medical Trial

2021

Today



MD Fernando Saldarini



Ministerio de Ciencia,
Tecnología e Innovación
Argentina



MD Martín Sivori



EriSea



Dr Gabriela de Larrañaga



Hospital de Infecciosas
Francisco J. Muñiz

MULTICENTRIC CLINICAL TRIAL



promarine
EriSea

PRUEBA MEDICA SECUELAS COVID-19
ZOS EchA Marine
SUPLEMENTO DIETARIO A BASE DE HUEVAS DE ERIZO DE MAR

Seguimiento integral del paciente, considerando su bienestar físico y emocional

Libre de GMO.
100% Natural.
100% de trazabilidad.

Libre de crueldad animal.
Producción no-extractiva.
100% libre de antibióticos.

+20 años de investigación científica.
Aprobado Bromatológicamente
Clínicamente testeado.

CONICET

OCUS MED

Hospital de Infecciosas Francisco J. Muñiz

ramosMejía

ACRO

Telemedicine
platform
OCUSMED

Network of
Counselors



EriSea



SkyMed es un sistema de Telemedicina que fue desarrollado para el Monitoreo Digital de control de síntomas activos, estados de ánimo y estudios médicos en pacientes. A la fecha, ya lleva más de un año funcionando con 4.140 pacientes monitoreados. Utiliza herramientas de Inteligencia Artificial que permite emitir alertas con información dirigida a los profesionales de la salud intervinientes. Asimismo, los pacientes podrían acceder a una comunicación más fluida con ellos. Es un instrumento apropiado para medir síntomas e indicadores clínicos y emocionales de forma remota.

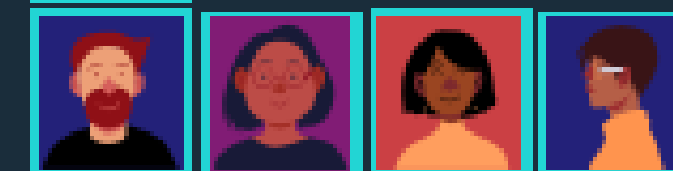
Los procesos de comunicación y sinergia se potencian entre distintas especialidades médicas, brindando un acompañamiento óptimo con su diseño semidescentralizado en torno al paciente.

ESTA PRUEBA MÉDICA HA SIDO APROBADA POR LOS COMITÉS DE ÉTICA DE LOS HOSPITALES INVOLUCRADOS.

Participan en su diseño y ejecución médicos de los Hospitales **Ramos Mejía, Santojanni y Muñiz**, Investigadores de **CONICET** y de la **Universidad Nacional de la Patagonia San Juan Bosco**. Desarrolladores del Sistema de Telemedicina Digital **SkyMED**, la empresa de Base Tecnológica del CONICET **EriSea** y los Consultores Psicológicos de **Counselors en Red 2020, Counselors Solidarios, CollegiaCad y Pce-7**.



SECUELAS COVID-19



Tratamiento y seguimiento de síntomas persistentes: un Enfoque Descentralizado en torno al Paciente.

Esta Prueba Médica está enfocada en monitorear y mejorar su salud

OCUS MED



2022

Today

Randomized Double- Blind Design

- ✓ 3 months long
- ✓ 2 daily doses EchA Marine
- ✓ 2 experimental groups
 - 1. Quality of life - EuroQol5D-3L
 - 2. Neurological analysis
 - 3. Pneumonological analysis
 - 4. Psychological analysis
 - 5. Blood parameters



Medical trial for patients in 3 argentinian hospitals,
approved by NIH (NCT05531019). I

RESULTS

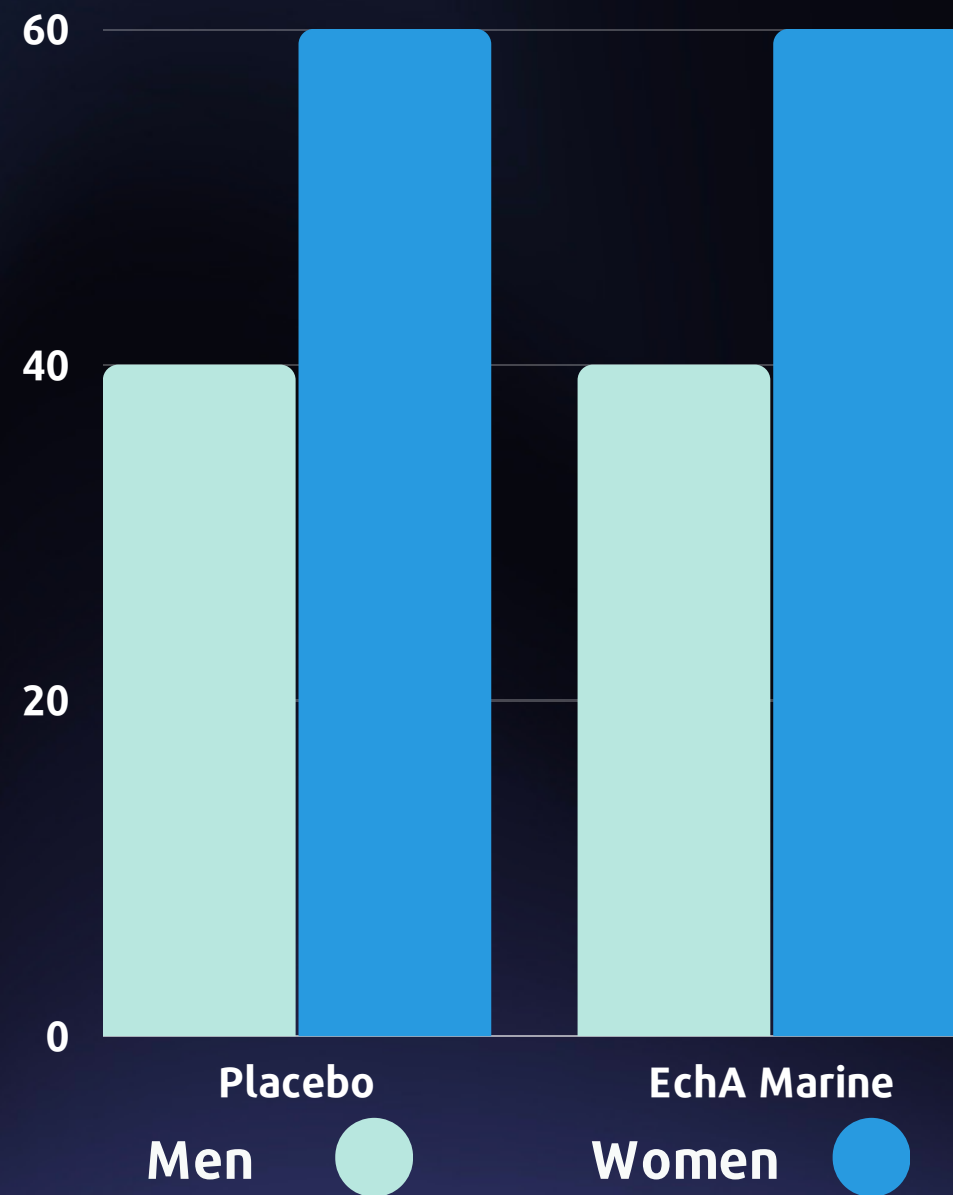
Biometrical Data

- 46 patients -

2023

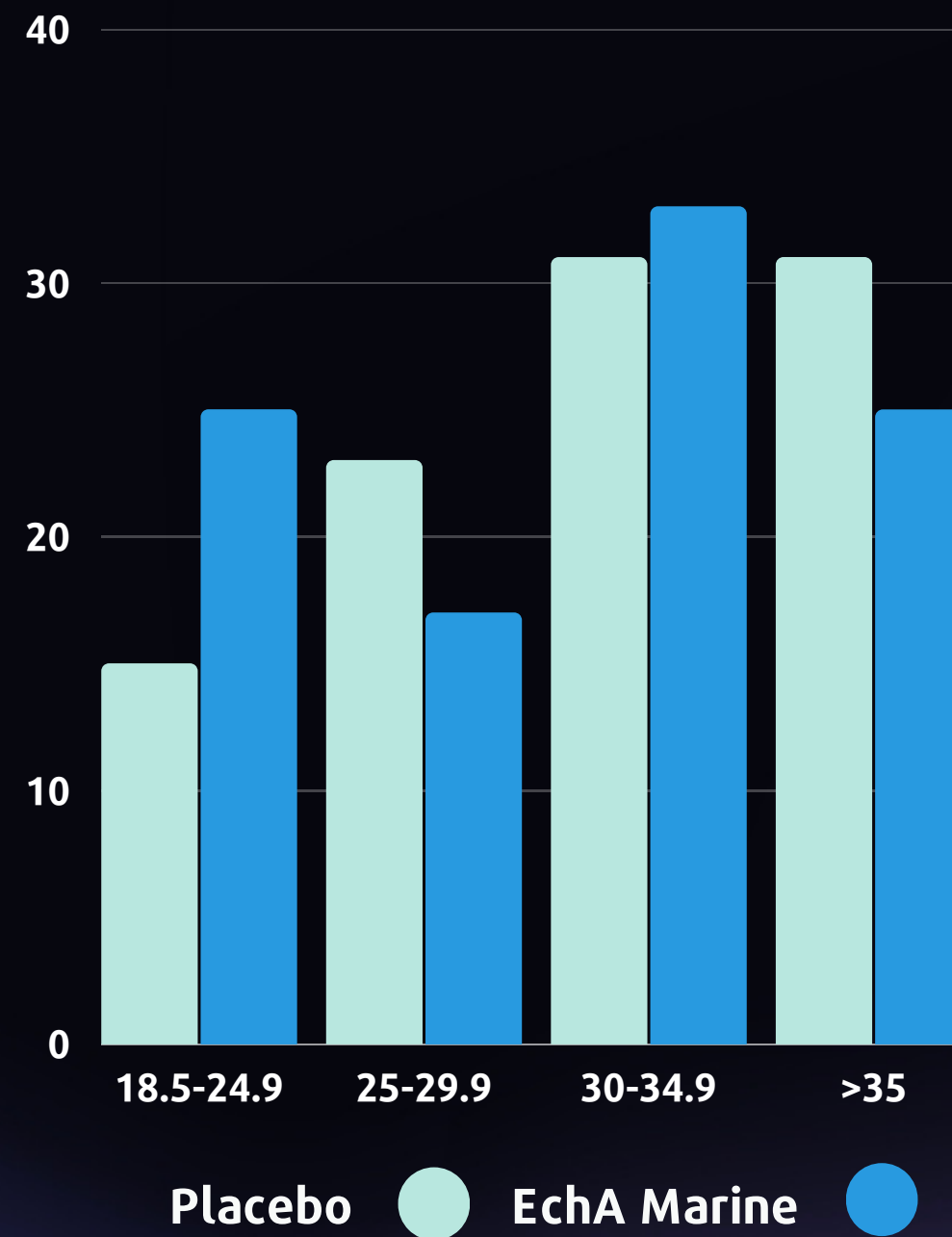
Today

SEX



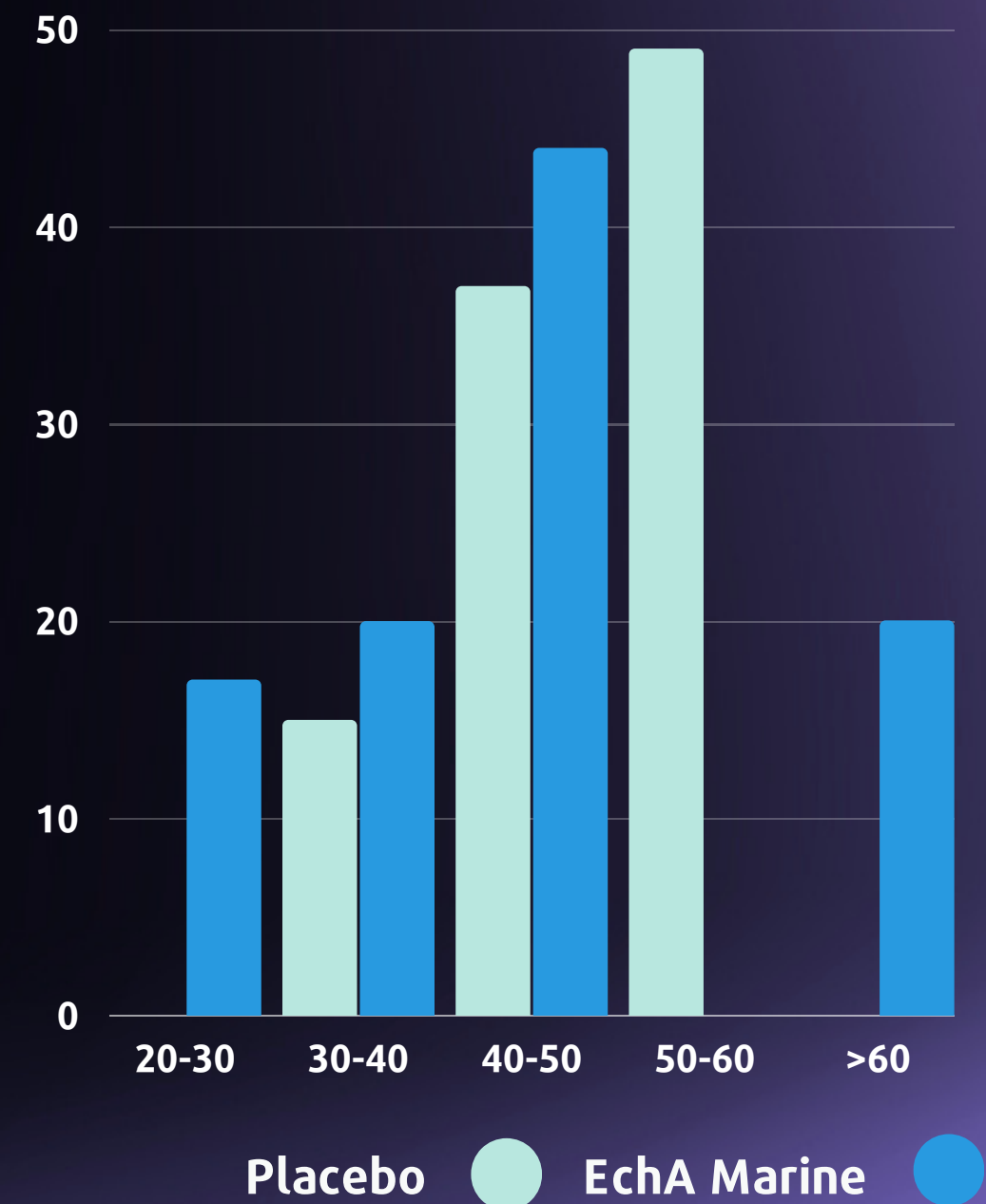
No significant differences between Placebo and EchA
Chi-square= 2; p= 0.153

BMI



No significant differences between Placebo and EchA
F_{1,44}= 2.011; p= 0.163

AGE



No significant differences between Placebo and EchA F_{1,44}=
1.363 p= 0.249

RESULTS

EuroQol5D-3L

2023

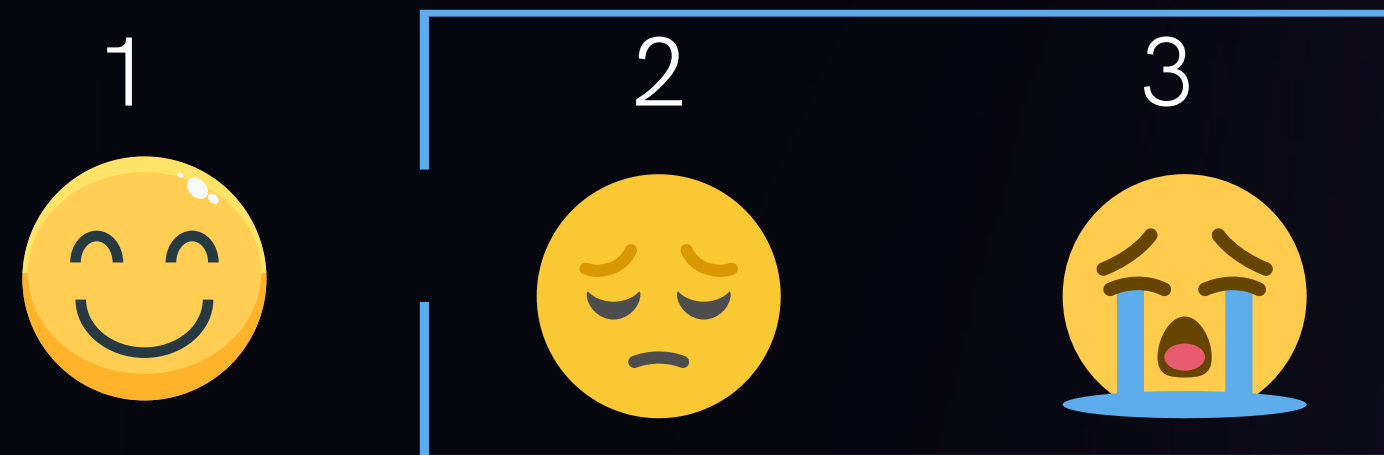
Today

At the beggining...

All patients reported a Decreased in Quality of Life

1. Mobility
2. Self Care
3. Usual Activities
4. Pain/Discomfort
5. Anxiety/Depression

Scale of symptoms degree



Values 2 and 3 were the most frequents

No significat differences at the beggining

Placebo Vs EchA Marine® in all five dimentions ($p > 0.05$)



RESULTS

EuroQol5D-3L

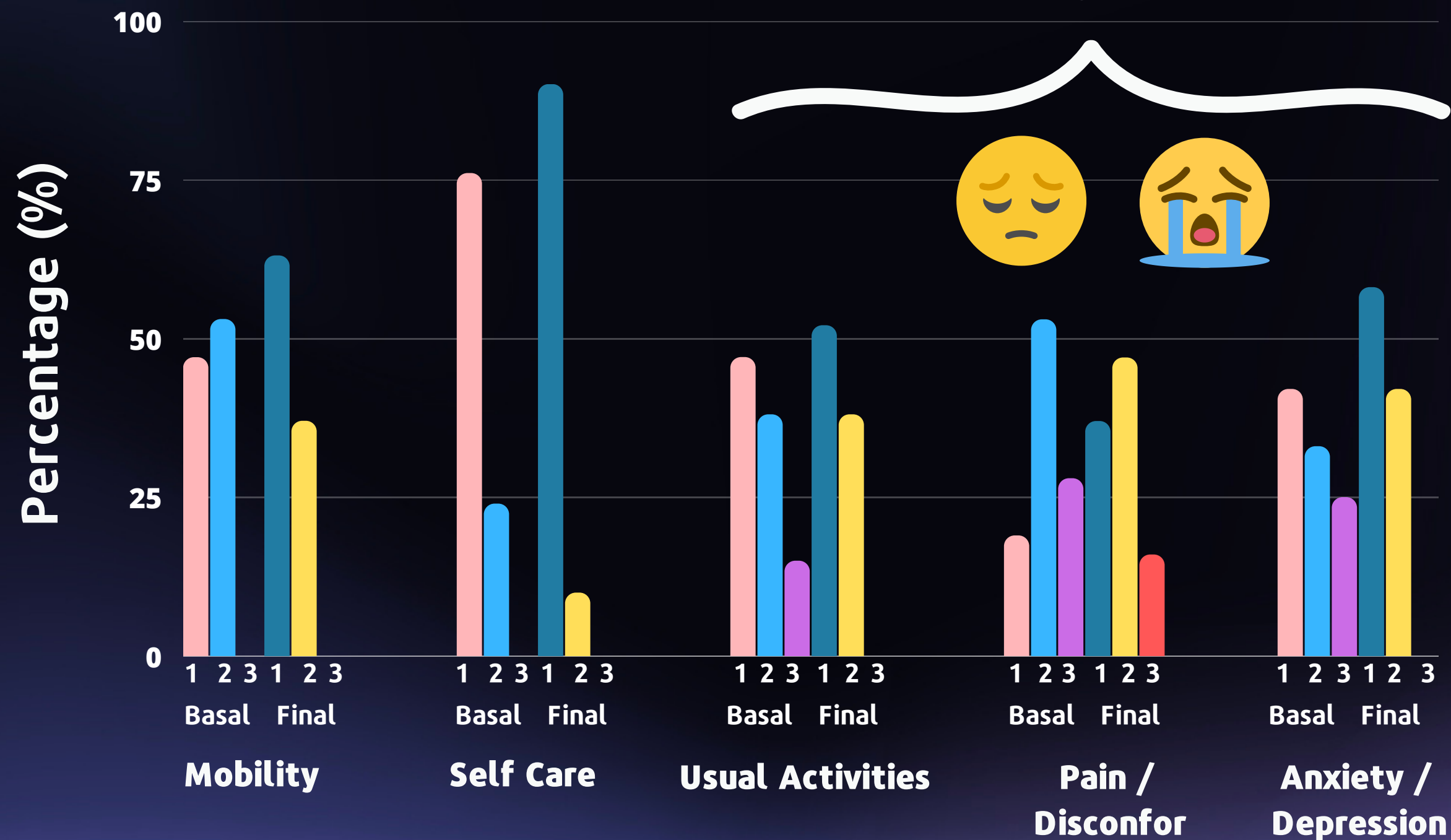
2023

Today

PLACEBO

Values 3 continue to be present

Placebo did not show significant improvement



RESULTS

EuroQol5D-3L

2023

Today

EchA Marine

Values 3 disappear in all dimensions



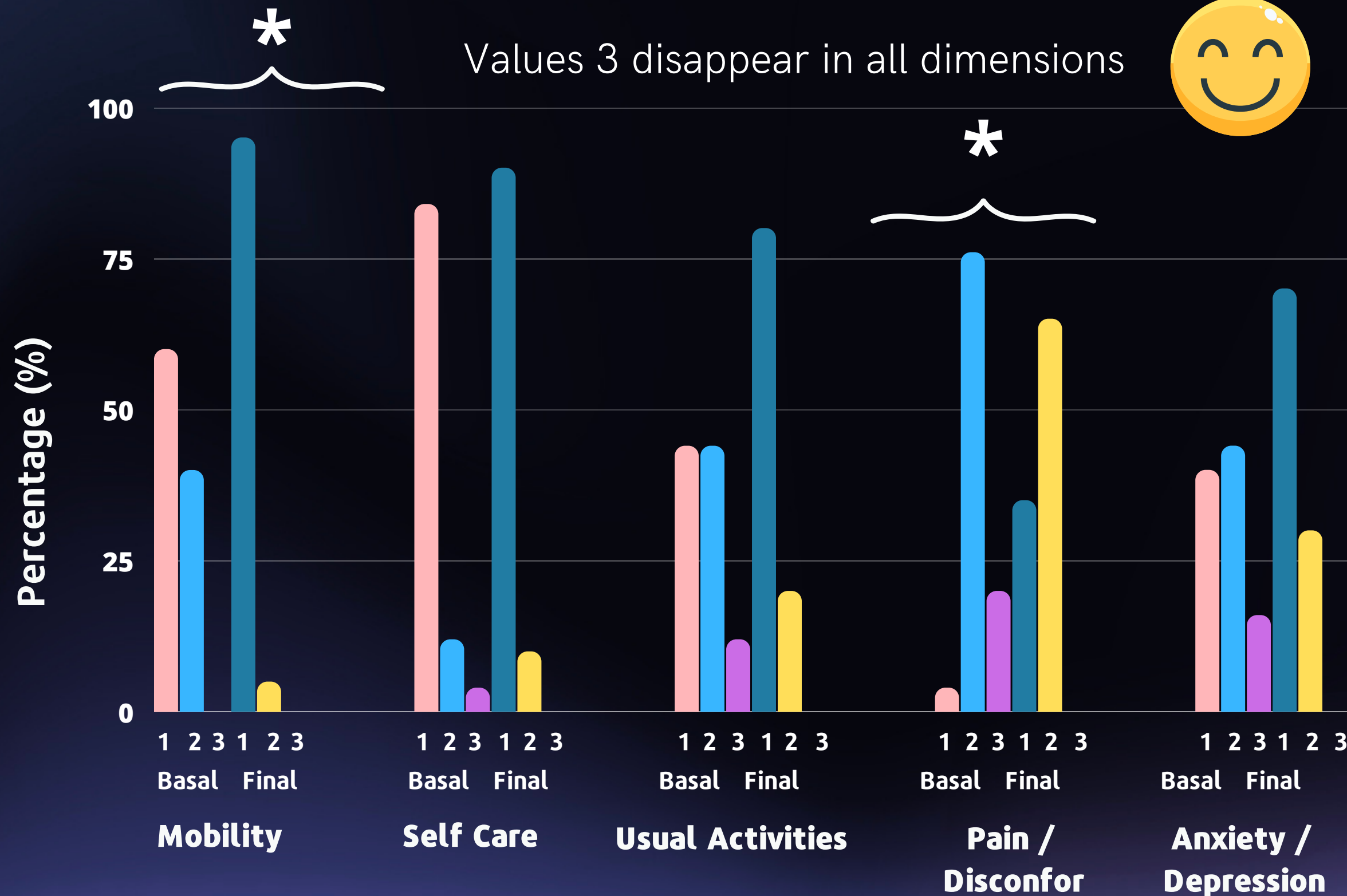
EchA Marine® significantly decreased the values of:

✓ Mobility

(F1,44= 6.738 p= 0.013)

✓ Pain/Discomfort

(F1,44= 3.415 p= 0.005)



RESULTS

Neurological Analysis

2023

Today

Neurological cognitive pathologies

- Attention
- Confusion
- Memory
- Language
- Executive dysfunction

BEFORE		NEUROLOGICAL SYMPTOMS							
		0	1	2	3	4	6	11	TOTAL
TYPE	ECHA MARINE®	1	3	1	3	1	1	1	11
	PLACEBO	2	5	5	0	2	0	0	14
TOTAL		3	8	6	3	3	1	1	25

AFTER		NEUROLOGICAL SYMPTOMS						
		0	1	2	4	5		TOTAL
TYPE	ECHA MARINE®	2	3	8	6	4		11
	PLACEBO	3	6	3	4	2		14
TOTAL		5	9	11	10	6		25

After treatment

- Nobody had more than 5 symptoms after treatment
- 60% of the people ended symptoms after EchA Marine
- 28% of the people ended symptoms after Placebo



RESULTS

Neurological Analysis

2023

Today

← Worsening Improvement →

		RECOVERY			
		-1	0	1	TOTAL
TYPE	ECHA MARINE®	0	2	9	11
	PLACEBO	2	5	7	14
TOTAL		2	7	16	25

EchA Marine

- Nobody got worse
- 90% of the people got better

Placebo

- 13% of the people got worse
- 46% of the people got better

With EchA Marine there was a significative improvement of cognitive symptoms ($p=0.048$)

Men have 13 times more chances of improvement (1.321-134.615)

RESULTS

Pneumonological Analysis

2023

Today

Pneunological Tests

- Spirometry
- Six-minute Walk Test
- Astenia/Fatigue
- Dyspnoea recovery
- High-Resolution Chest Computed Tomography images

Pneumonia
Recovery



RESULTS

Pneumonological Analysis

2023

Today

Worsening Improvement

		-1	0	1	TOTAL
TYPE	ECHA MARINE®	1	6	10	17
	PLACEBO	6	8	5	19
TOTAL		7	14	15	36

Pneumonia
Recovery

EchA Marine

- 1 person got worse
- 60% of the people got better

Placebo

- 32% of the people got worse
- 25% of the people got better

Echa Marine diminished the severity of pneumonological symptoms ($p=0.009$)

RESULTS

Pneumonological Analysis

2023

Today

	<i>Variables in the equation</i>								
		<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>Df</i>	<i>Sig.</i>	<i>Exp (B)</i>	<i>95% C.I. for Exp (B)</i>	
								<i>Lower</i>	<i>Upper</i>
STEP 1^a	PLACEBO TREATMENT(1)	1.609	.789	4.163	1	.041	5.000	1.065	23.464
	CONSTANT	-1.609	.632	6.476	1	.011	.200		

- Patients with EchA Marine have 5 times more chances of improving pneumonia compared to the placebo group

→ odds ratio 5.00 (1.07-23.46) (p=0.041)

- Pneumological improvement was directly correlated with treatment independent of age, BMI and sex.

RESULTS

Pneumonological Analysis

2023

Today



Worsening

Improvement



Asthenia/Fatigue
recovery

		-1	0	1	TOTAL
TYPE	ECHA MARINE®	0	4	13	17
	PLACEBO	4	3	12	19
TOTAL		4	7	25	36

EchA Marine

- Nobody got worse
- 76% of the people got better

Placebo

- 21% of the people got worse
- 63% of the people got better

There were no significant differences ($p = 0.225$) probably not enough patients

RESULTS

Pneumonological Analysis

2023

Today

Worsening

Improvement

Dispnoea
recovery

		-2	-1	0	1	2	TOTAL
TYPE	ECHA MARINE®	2	3	8	6	4	23
	PLACEBO	3	6	3	4	2	18
TOTAL		5	9	11	10	6	41

EchA Marine

- 30% of the people got worse
- 44% of the people got better

Placebo

- 50% of the people got worse
- 33% of the people got better

There were no significant differences ($p = 0.168$) probably not enough patients

RESULTS

Emotional Counselor Support

2023

Today

EchA Marine

- 70% of patients expressed feeling emotionally better

Placebo

- 22% of patients expressed feeling emotionally better



EchA Marine® is an effective treatment option for Long COVID patients



Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

EuroQol-5D-3L in Long Covid patients After Supplementation with EchA Marine®, a Sea Urchin Eggs Extract: a double-blinded, multicentric study.

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Hospital Donación Francisco Santojanni, CABA <https://orcid.org/0009-0002-5546-5502>

Rubilar T.

CESIMAR-CONICET <https://orcid.org/0000-0003-1728-3273>

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Counselor
Counselour Leader

The Team

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The End

Thank you!



EriSea



KU LEUVEN

