

Η ΑΙΜΟΤΠΡΟΣΡΟΦΗΣΗ ΩΣ ΜΕΡΟΣ ΤΗΣ ΘΕΡΑΠΕΥΤΙΚΗΣ ΑΝΤΙΜΕΤΩΠΙΣΗΣ
ΛΟΙΜΩΔΟΥΣ ΕΝΔΟΚΑΡΔΙΤΙΔΑΣ ΣΕ ΑΣΘΕΝΗ ΜΕ ΧΡΟΝΙΑ ΝΕΦΡΙΚΗ ΝΟΣΟ
ΤΕΛΙΚΟΥ ΣΤΑΔΙΟΥ ΥΠΟ ΑΙΜΟΚΑΘΑΡΣΗ (ΧΝΑ-ΤΝ)

Ι. Γριβέας, Ε. Πρατήλας, Α. Μπαλιτσάρη

Νεφρολογική Κλινική, 417 Νοσηλευτικό Ίδρυμα Μετοχικό Ταμείο Στρατού (ΝΙΜΤΣ)



ΕΛΛΗΝΙΚΗ ΕΤΑΙΡΕΙΑ
ΑΙΜΑΦΑΙΡΕΣΗΣ



Οι ασθενείς με ΧΝΑ-ΤΝ που πάσχουν από λοιμώδη ενδοκαρδίτιδα είναι ασθενείς υψηλού κινδύνου για την ανάπτυξη μίας συστηματικής υπερφλεγμονώδους κατάστασης που θα μπορούσε να οδηγήσει σε σηπτική καταπληξία.



Η αιμοπροσρόφηση, απομακρύνοντας τους μεσολαβητές της φλεγμονής, θα μπορούσε να χρησιμοποιηθεί ως ένα μέσο ελέγχου της «φλεγμονώδους» διαδικασίας και σταθεροποίησης της κλινικής και αιμοδυναμικής εικόνας του ασθενούς.

Εισαγωγή

Γυναίκα ασθενής
81 ετών με ΧΝΑ-
ΤΝ από 5ετίας
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γόντως λόγω υψη-
λού εμπυρέτου (θ
39°C) από ωρών

Ιστορικό

Διαβητική νόσος

Σακχαρώδης διαβήτης τύπου ΙΙ
Χρόνια κολπική μαρμαρυγή
Αρτηριακή υπέρταση
Χολολιθίαση-χολοκυστεκτομή

(6/6/2019)

Απόστημα ΔΕ πνευμονικής βάσης
(7/2019)

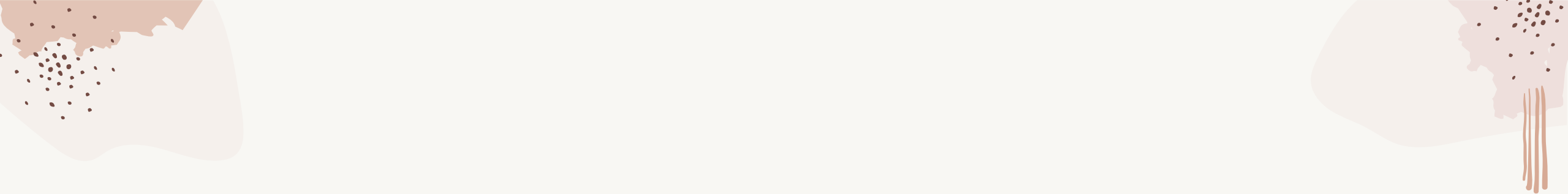
Απόστημα ΑΡ μαστού από

Proteus mirabilis και

Staph Aureus (9/2020)
ΧΜΛ (2015)

Παρακλινικός έλεγχος

Θετική αιμοκαλλιέρ-
γεια (*s.aureus*),
ευκίνητο μόρφωμα
στην κοιλιακή επιφά-
νεια της αορτικής
βαλβίδας και
ενδοπνευμονική
κοιλοτική αλλοίωση
στο δεξιό κάτω λοβό
του πνεύμονα

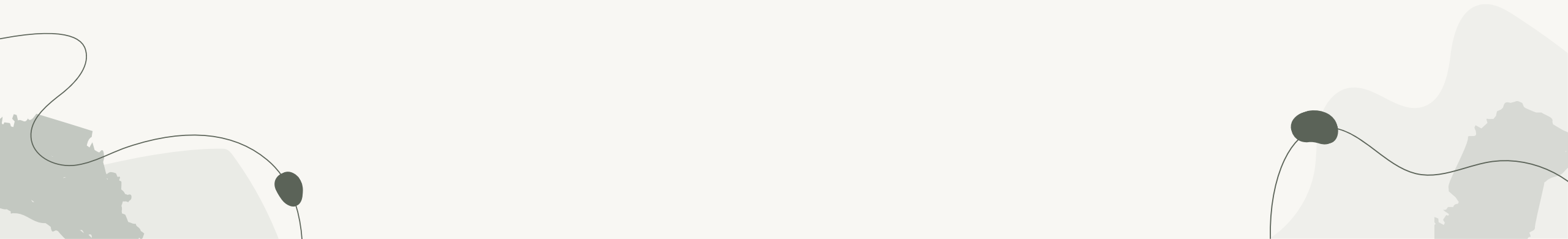


Η κλινική εικόνα της ασθενούς παρέμεινε βεβαρυμένη τα 2 πρώτα 24ώρα με αιμοδυναμική αστάθεια, εμπύρετο και θόλωση της διανοσίας

Τέθηκε σε ενδοφλέβια αντιβιοτική αγωγή, εξαιρέθηκε ο μόνιμος κεντρικός φλεβικός καθετήρας,

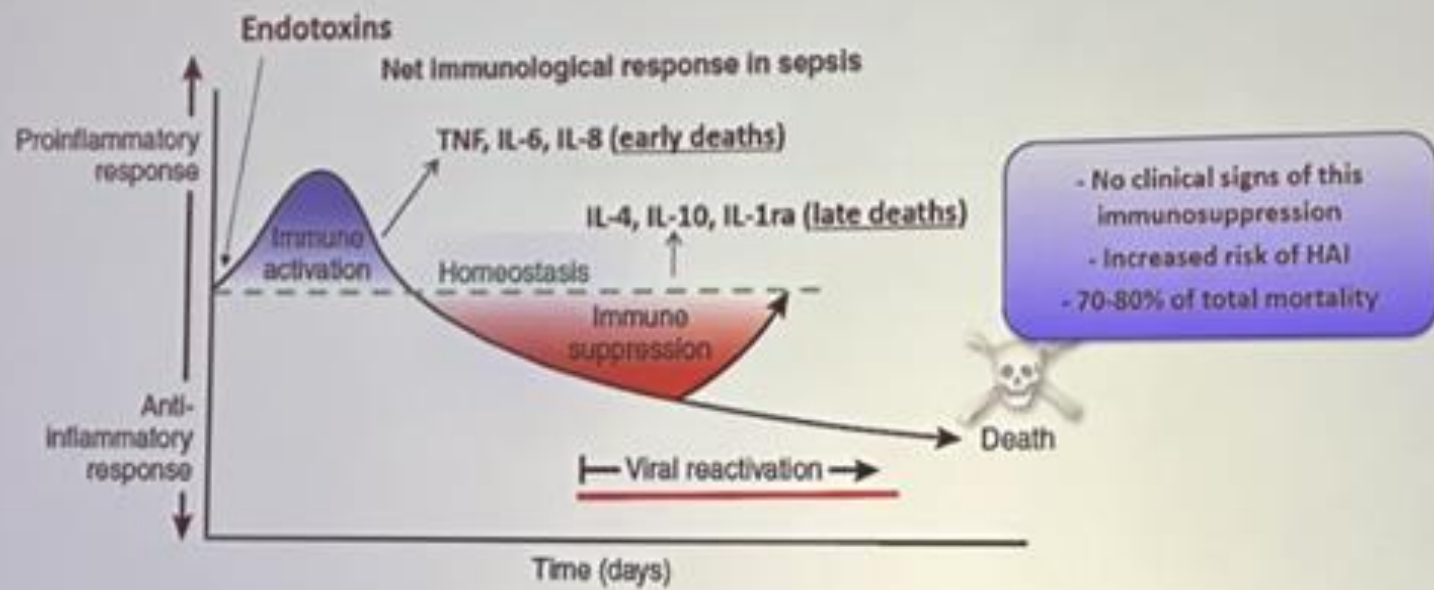
τοποθετήθηκε προσωρινός

2 συνεχόμενες συνεδρίες αιμοπροσρόφησης με φίλτρο HA330

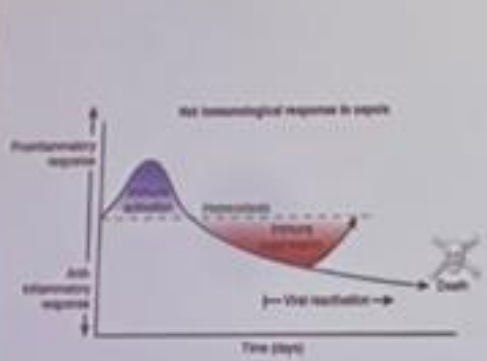


- Cytokines, as other DAMPs, have a pivotal biologic role during sepsis
- These are soluble circulating molecules, available for extracorporeal removal through transmembrane clearance and/or adsorption.
- EBP have been proposed to support the organ function and interact with pathophysiologic mechanisms sustaining multiple organ dysfunction during sepsis
- Nonetheless.. Despite humoral biologic pathways interact with cellular component of innate and adaptive immunity, these are not the main effectors of inflammation and immune responses. A deep focus should be made on the effect of EBP on cellular function during sepsis.
- The unselective solutes removal obtained during EBP may have unwanted effects; caution should be payed during EBP used for cytokines removal, at least until immunomonitoring, endotyping, phenotyping (..or TDM..) will not allowed as a reliable, bedside, real time assessment.

Sepsis = Hyperinflammation followed by severe immunosuppression



The extracorporeal blood purification concept in sepsis



+



=

Improved patient outcomes ?

Available extracorporeal blood purification techniques in 2023

HEMOPERFUSION (Sorbents)

PMX-B (Toray/Estor)
Cytosorb (Cytosorbents)
LPS adsorber (Alteco)
HA330, HA380 (Jafron)
MG350 (Biosun)

CRRT filters

high adsorptive hemofiltration (oXiris, Baxter – PMMA, Toray)
high cut-off membranes (Emic2, Fresenius Medical Care)

NEW BLOOD PURIFICATION THERAPIES

(capable of leukocyte or bacteria or virus removal)

Seraph® (Exthera Medical)
FcMBL protein (Opsonix)
Hemopurifier® (Aethlon Medical)
other selective cytapheeresis technology...

MISCELLANEOUS, OTHER TECHNIQUES

High-volume hemofiltration/Cascade hemofiltration
Plasma exchanges
Coupled Plasma Filtration Adsorption

We should be careful of the increasing gap between technological progress and medical knowledge!



Medical knowledge

Increasing gap!



Technological progress



FOUR IMPORTANT UNANSWERED QUESTIONS :

- a- How do these therapies exactly interfere with sepsis pathophysiology?
- b- Which patients exactly?
- c- Which Timing?
- d- What to ultimately remove?

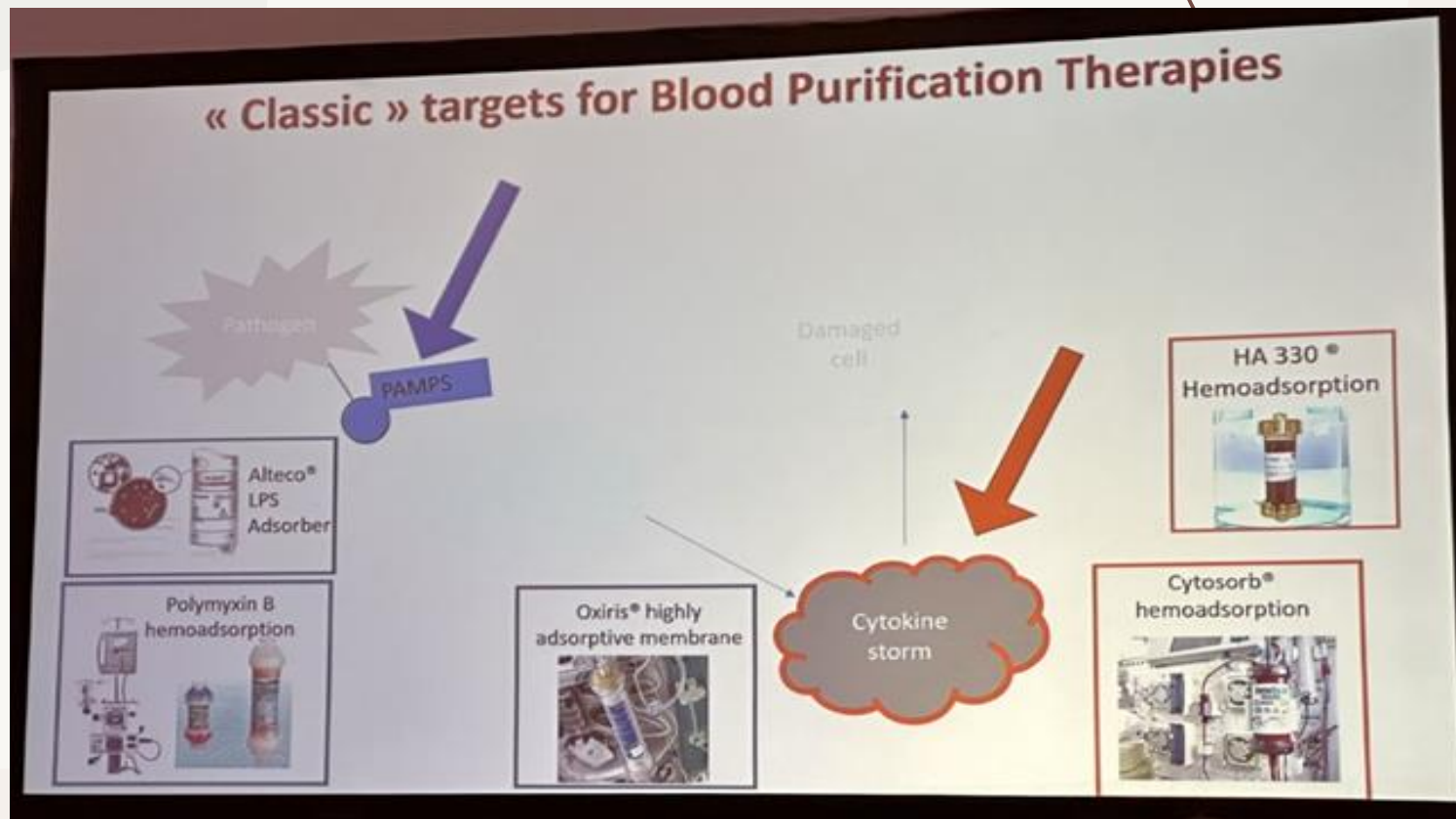
Three questions we should be focusing on to decide to continue or to end an EBP session

- 1) Am I really currently using the right EBP device for the right target at the right time of the sepsis time-course?
- 2) Am I being efficient?
- 3) Do I have any clue about how much time is needed to "saturate" the EBP device?

CONCLUSION

- In 2023, still many unanswered questions in the field of EBP for sepsis
 - How do these therapies exactly interfere with sepsis pathophysiology?
 - Which patients exactly?
 - Which Timing (initiation and termination)?
 - What to ultimately remove?
- Look at how the patient is responding (1- clinically 2- biologically 3- targeted molecule) to the EBP session when it comes to decide to continue (2nd session?) or to stop
- We do need more information about the saturation capacity of the EBP devices

« Classic » targets for Blood Purification Therapies





Η ασθενής βελτιώθηκε κλινικά και αιμοδυναμικά.

Υποχώρησαν αισθητά οι δείκτες φλεγμονής (CRP, προκαλσιτονίνη). Αν και δεν υπήρχαν οι προϋποθέσεις για τη χειρουργική αντιμετώπιση της λοιμώδους ενδοκαρδίτιδας η κλινική εικόνα της ασθενούς αργά και σταθερά βελτιώθηκε και εξήλθε μετά 33 ημέρες του νοσοκομείου.



Η αιμοπροσρόφηση είναι μία ασφαλή και καλά ανεκτή επιλογή για την διαχείριση ασθενών σε έντονη υπερφλεγμονώδη κατάσταση.

Πρέπει να τονιστεί ότι αν και η παραπάνω κλινική εμπειρία δίνει υποσχέσεις για νέες μελλοντικές θεραπευτικές επιλογές, είναι δύσκολο να προσδιοριστεί κανείς αν το ευεργετικό αποτέλεσμα οφείλεται αποκλειστικά στην αιμοπροσρόφηση ή στον συνδυασμό όλων των θεραπευτικών παρεμβάσεων. Απαιτούνται τυχαιοποιημένες μελέτες ή τουλάχιστον περισσότερα στοιχεία παρατήρησης για να καταλήξουμε σε πιο ασφαλή συμπεράσματα.

DOCTOR:

"Healthcare professional authorized to work
outside of guidelines"





Contents

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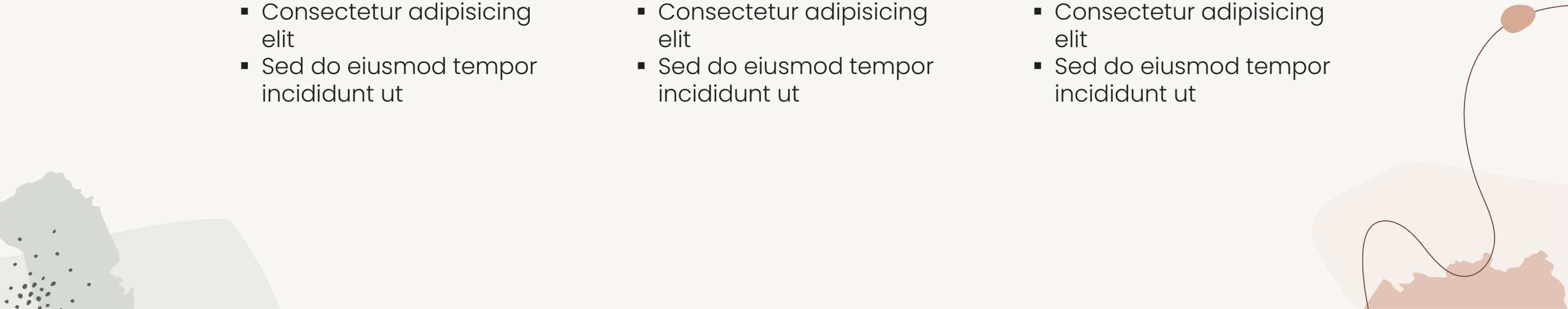
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Agenda



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Section Break
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Section Break Slide Title

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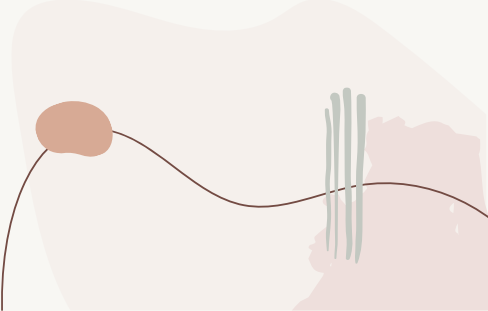
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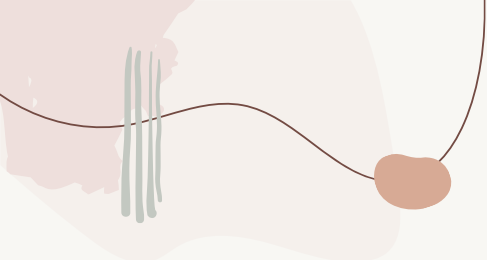
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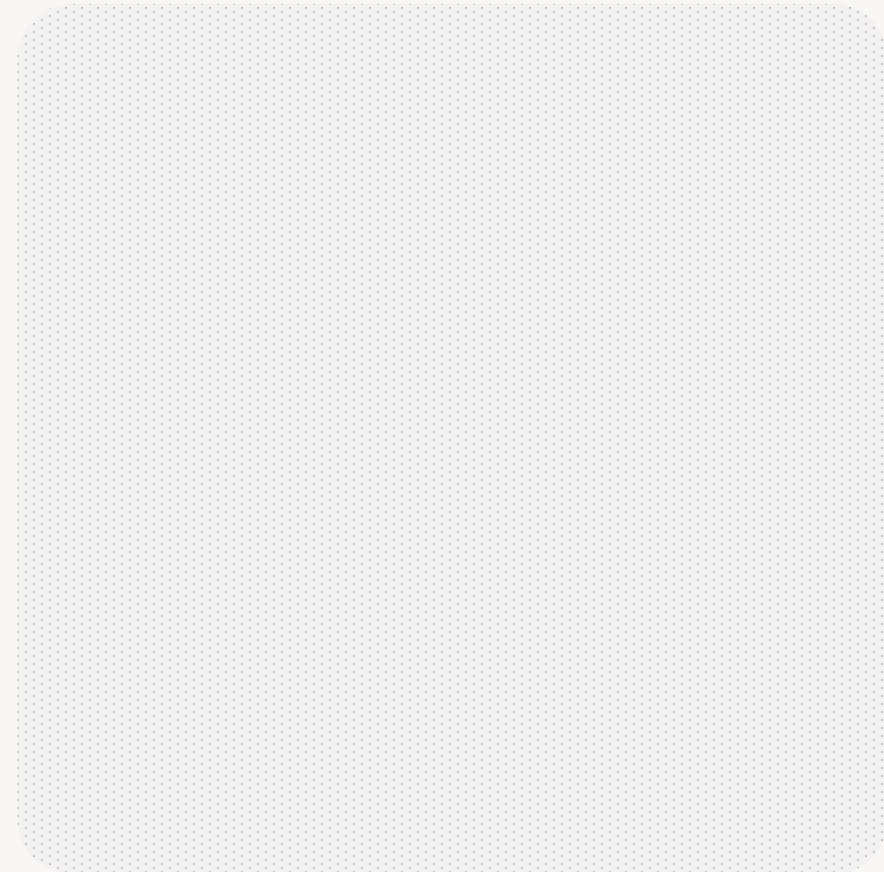


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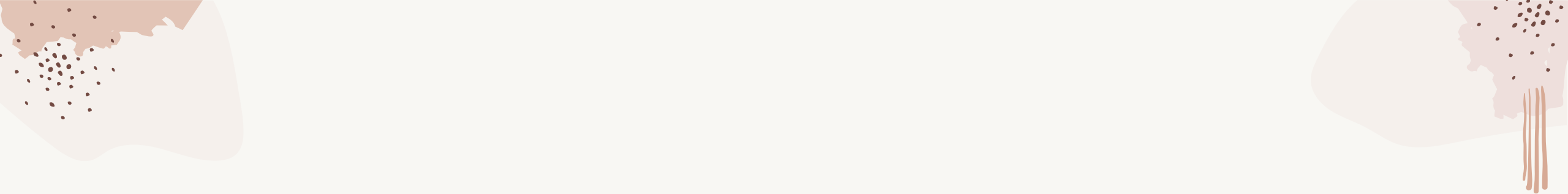
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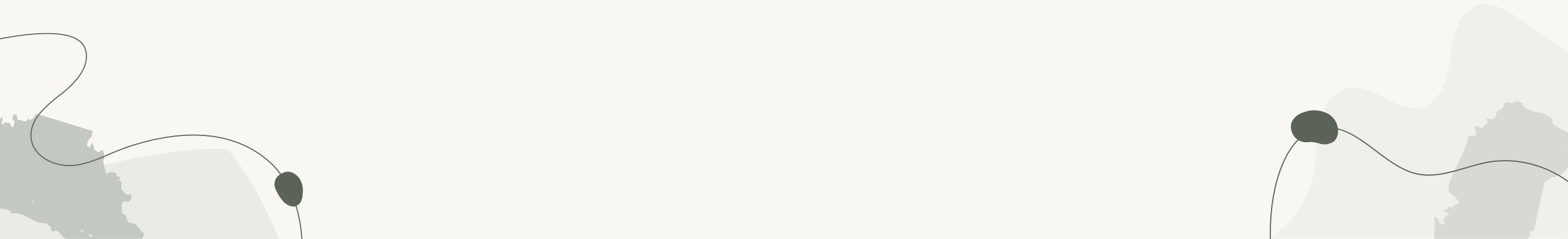


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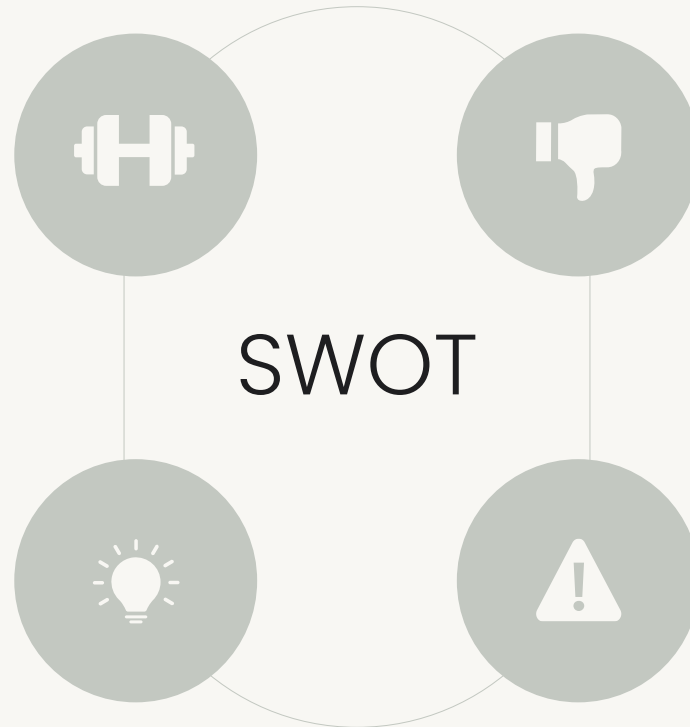


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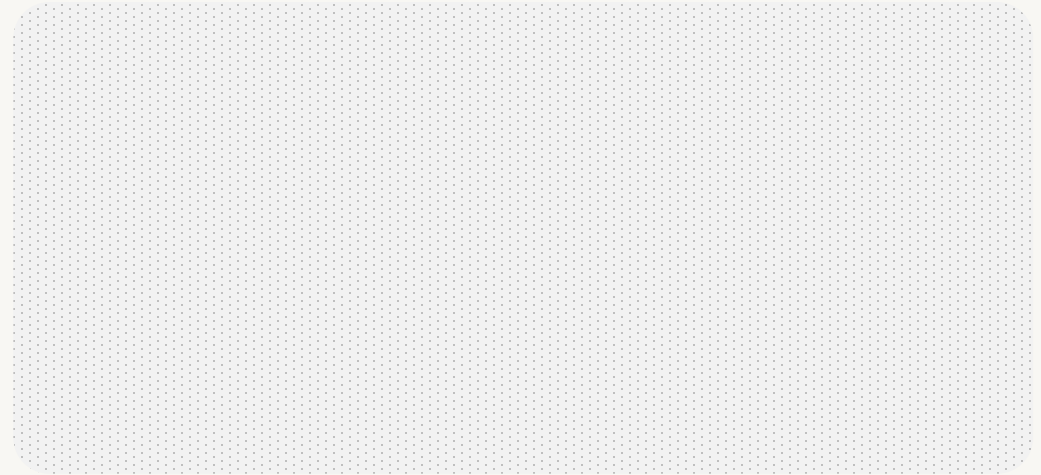
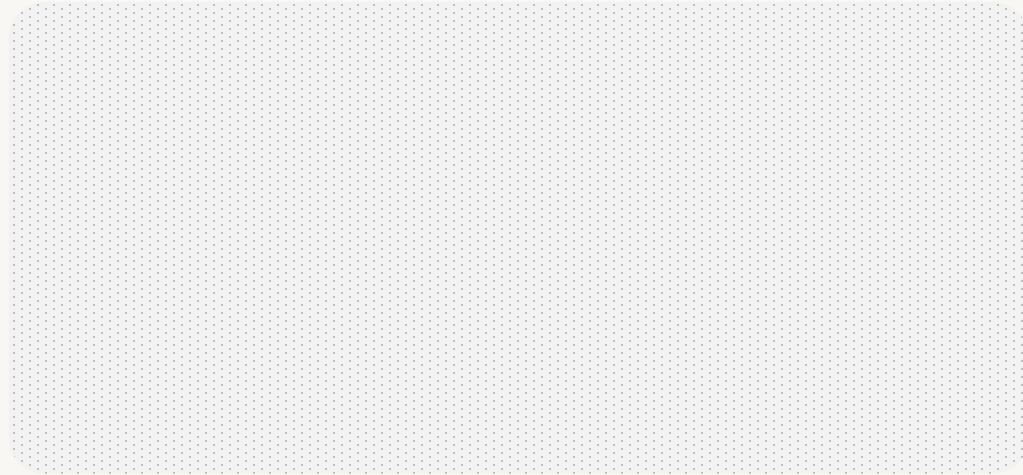
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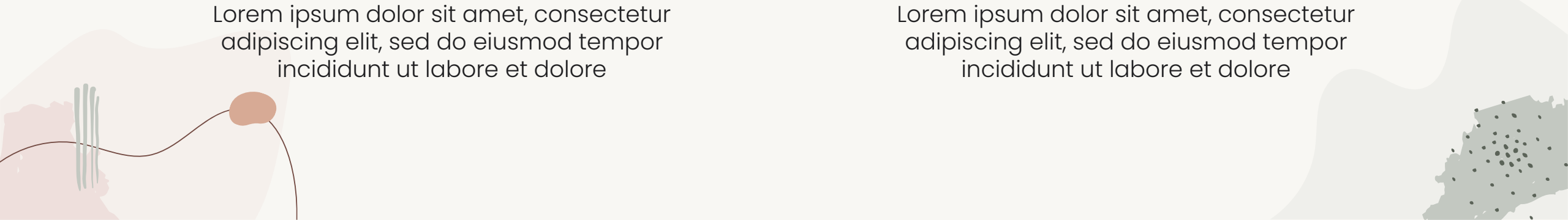


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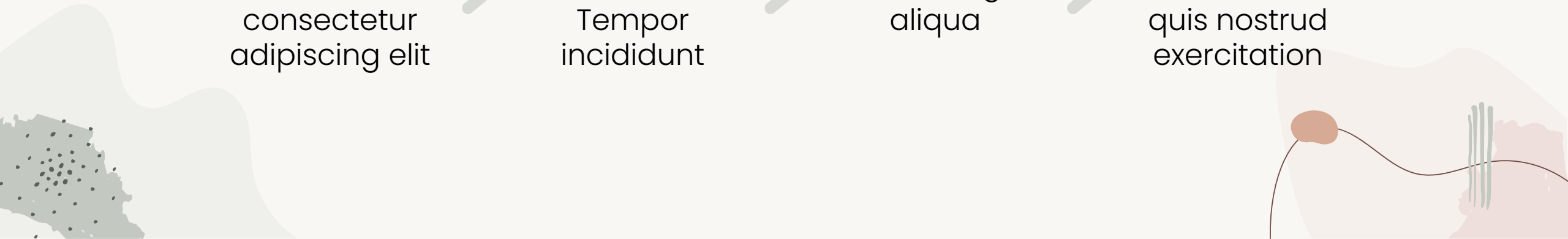
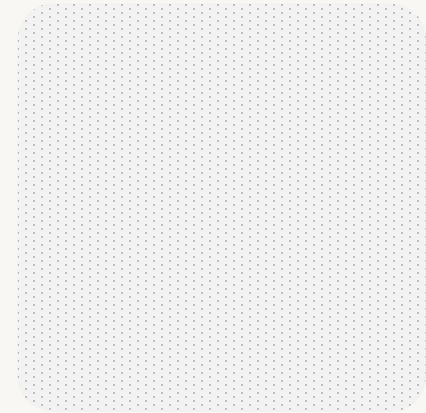
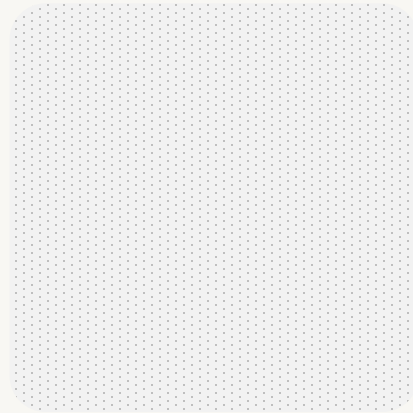
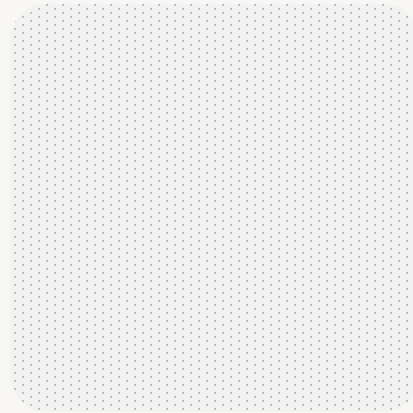
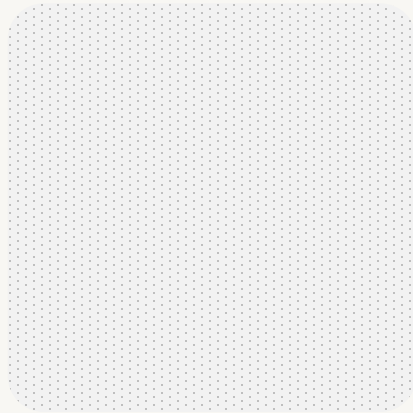


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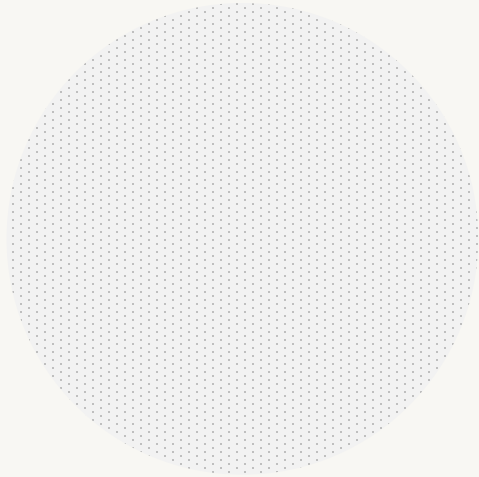
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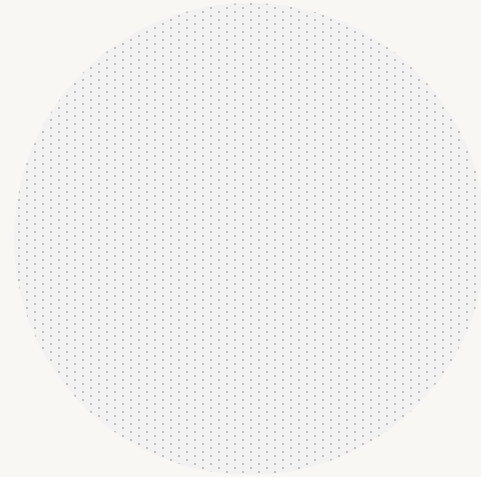


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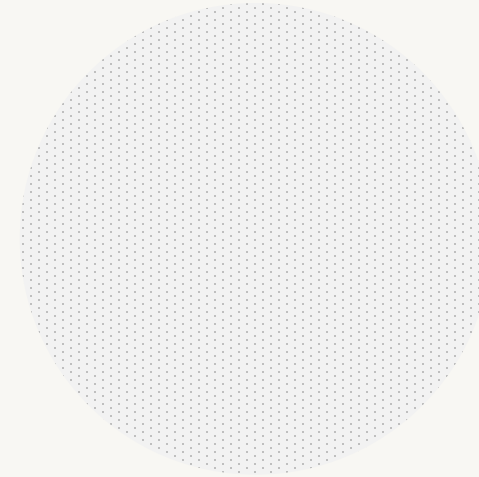
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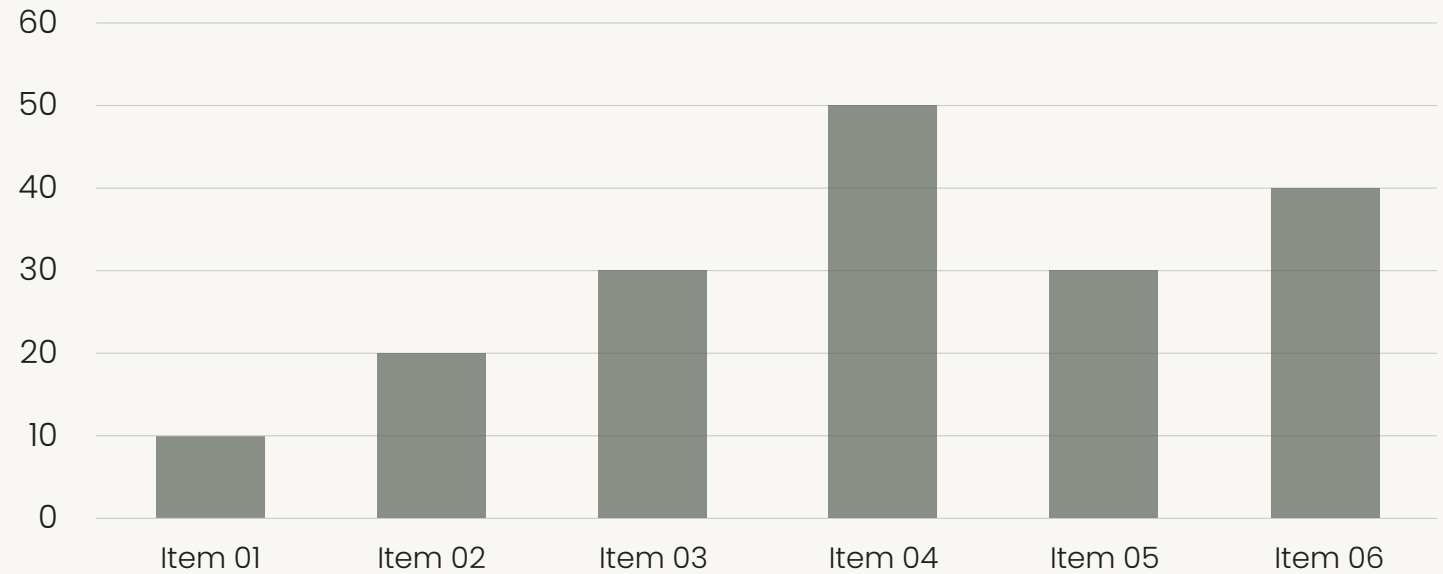


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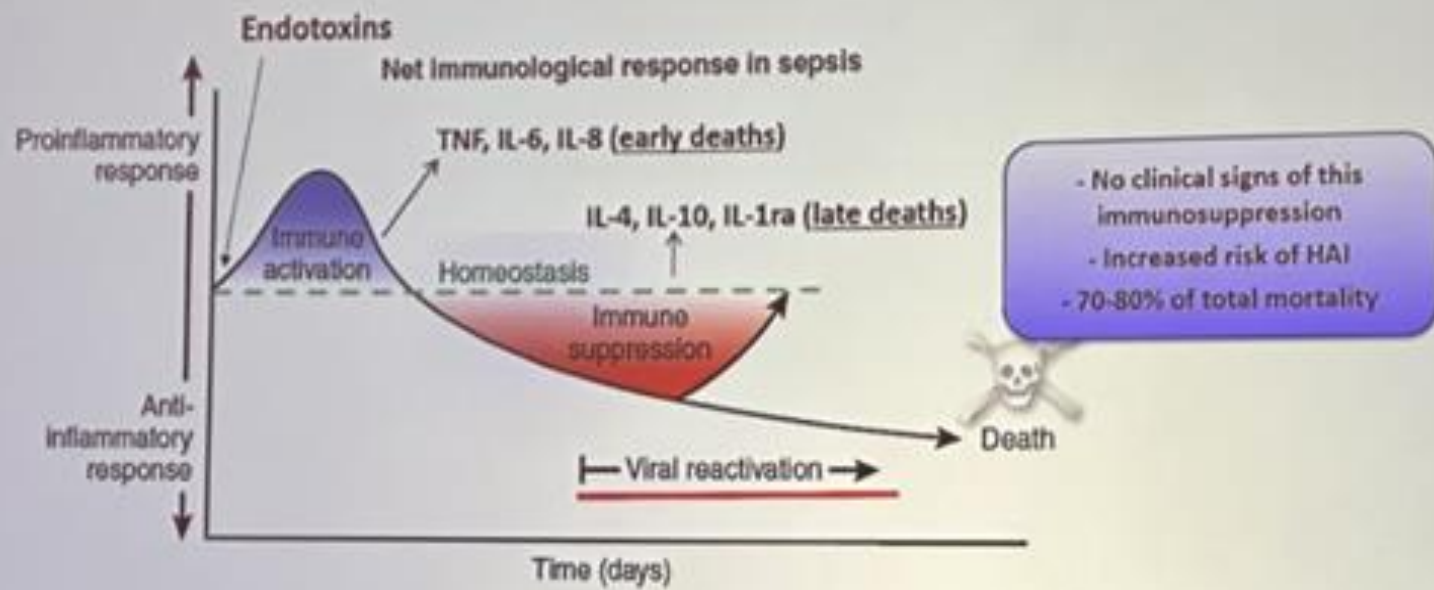
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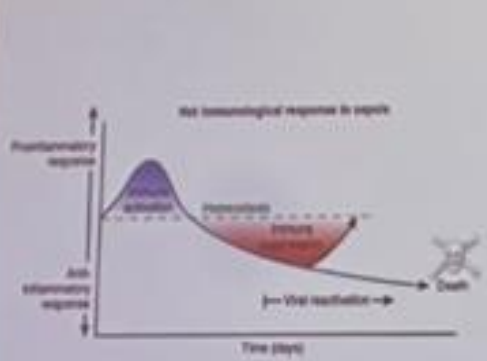
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The extracorporeal blood purification concept in sepsis



+



=

Improved patient outcomes ?

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MISCELLANEOUS, OTHER TECHNIQUES

High-volume hemofiltration/Cascade hemofiltration
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We should be careful of the increasing gap between technological progress and medical knowledge!



Medical knowledge

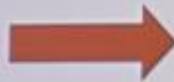
Increasing gap!



Technological progress

Past

Future



FOUR IMPORTANT UNANSWERED QUESTIONS :

- a- How do these therapies exactly interfere with sepsis pathophysiology?
- b- Which patients exactly?
- c- Which Timing?
- d- What to ultimately remove?

Three questions we should be focusing on to decide to continue or to end an EBP session

- 1) Am I really currently using the right EBP device for the right target at the right time of the sepsis time-course?
- 2) Am I being efficient?
- 3) Do I have any clue about how much time is needed to "saturate" the EBP device?

2) Am I being efficient?

EBP session

Time

- Clinical status
(Hemodynamics, respiratory parameters...)

- Biological status
(Lactate, biomarkers...)

- « Targeted molecule(s) » measurement
(cytokines, endotoxins...)

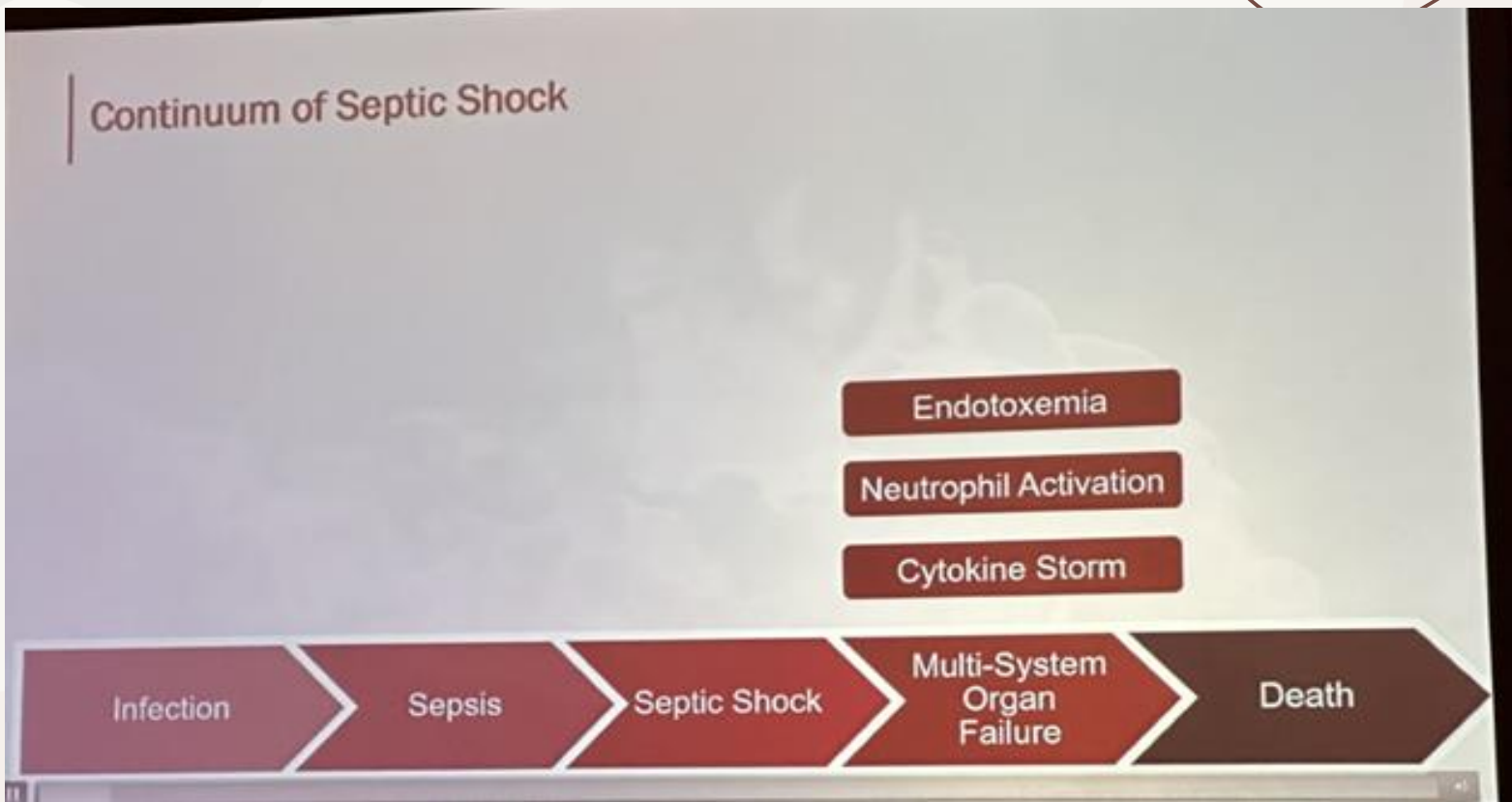
Indirect action of the EBP device

Direct action of the EBP device

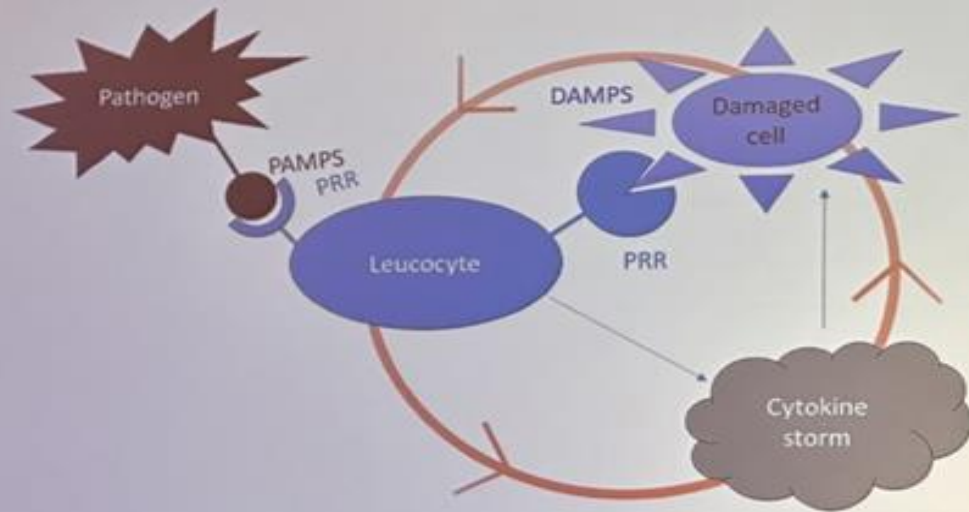
CONCLUSION

- In 2023, still many unanswered questions in the field of EBP for sepsis
 - How do these therapies exactly interfere with sepsis pathophysiology?
 - Which patients exactly?
 - Which Timing (initiation and termination)?
 - What to ultimately remove?
- Look at how the patient is responding (1- clinically 2- biologically 3- targeted molecule) to the EBP session when it comes to decide to continue (2nd session?) or to stop
- We do need more information about the saturation capacity of the EBP devices

Continuum of Septic Shock



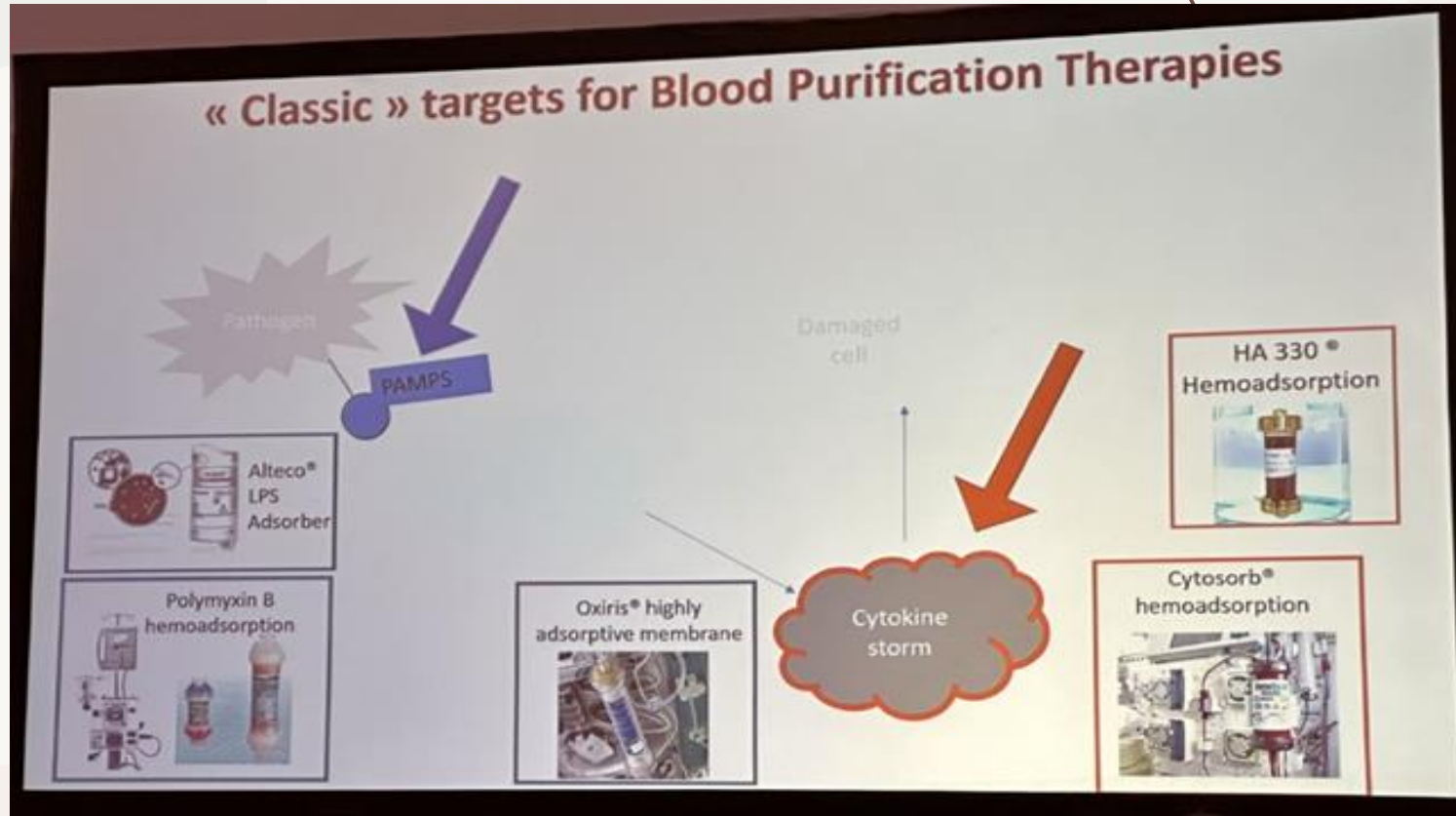
« Sepsis is a dysregulated host response to infection »

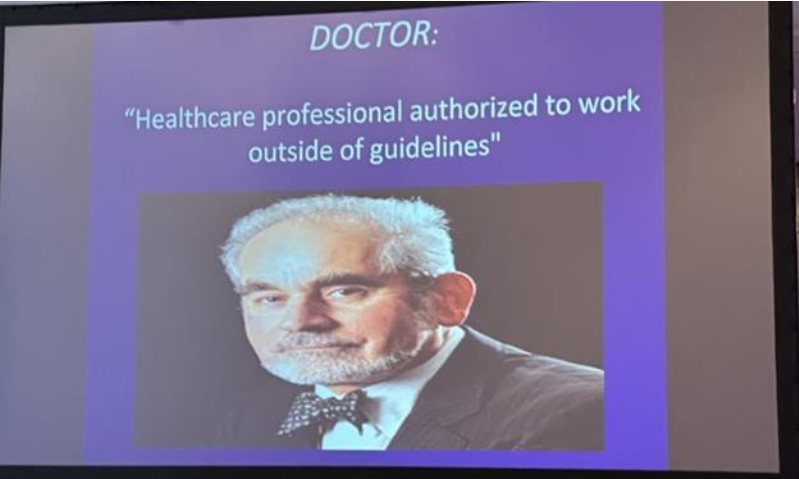


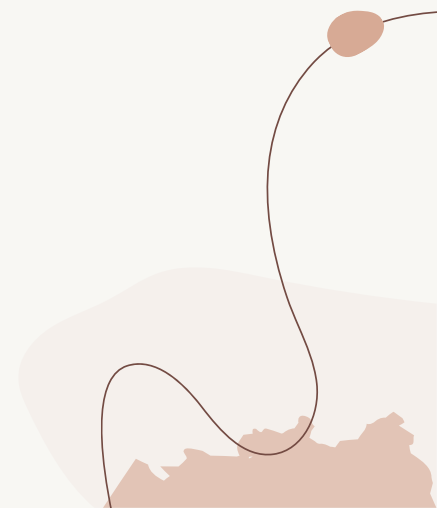
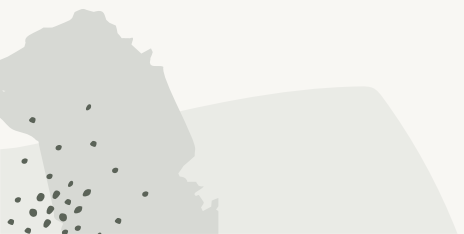
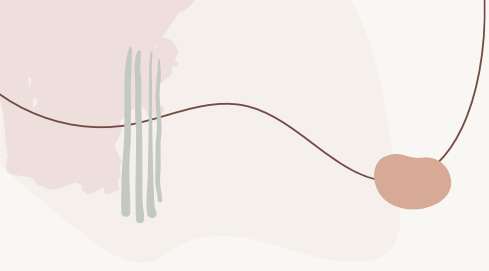
PRR = Pattern Recognition Receptor

Monard et al. Blood Purif 2019

« Classic » targets for Blood Purification Therapies









Break Section

01:00pm ~ 01:30pm

World Map Slide



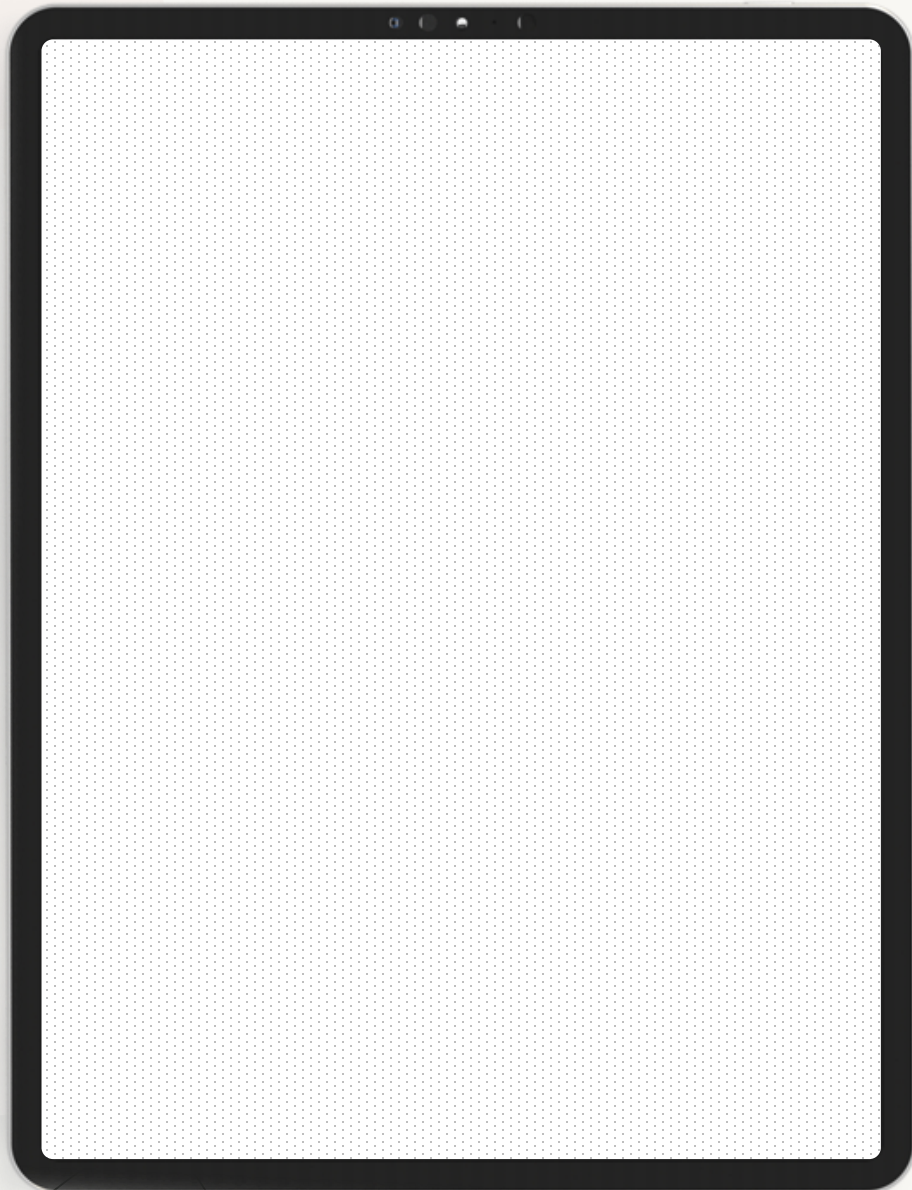


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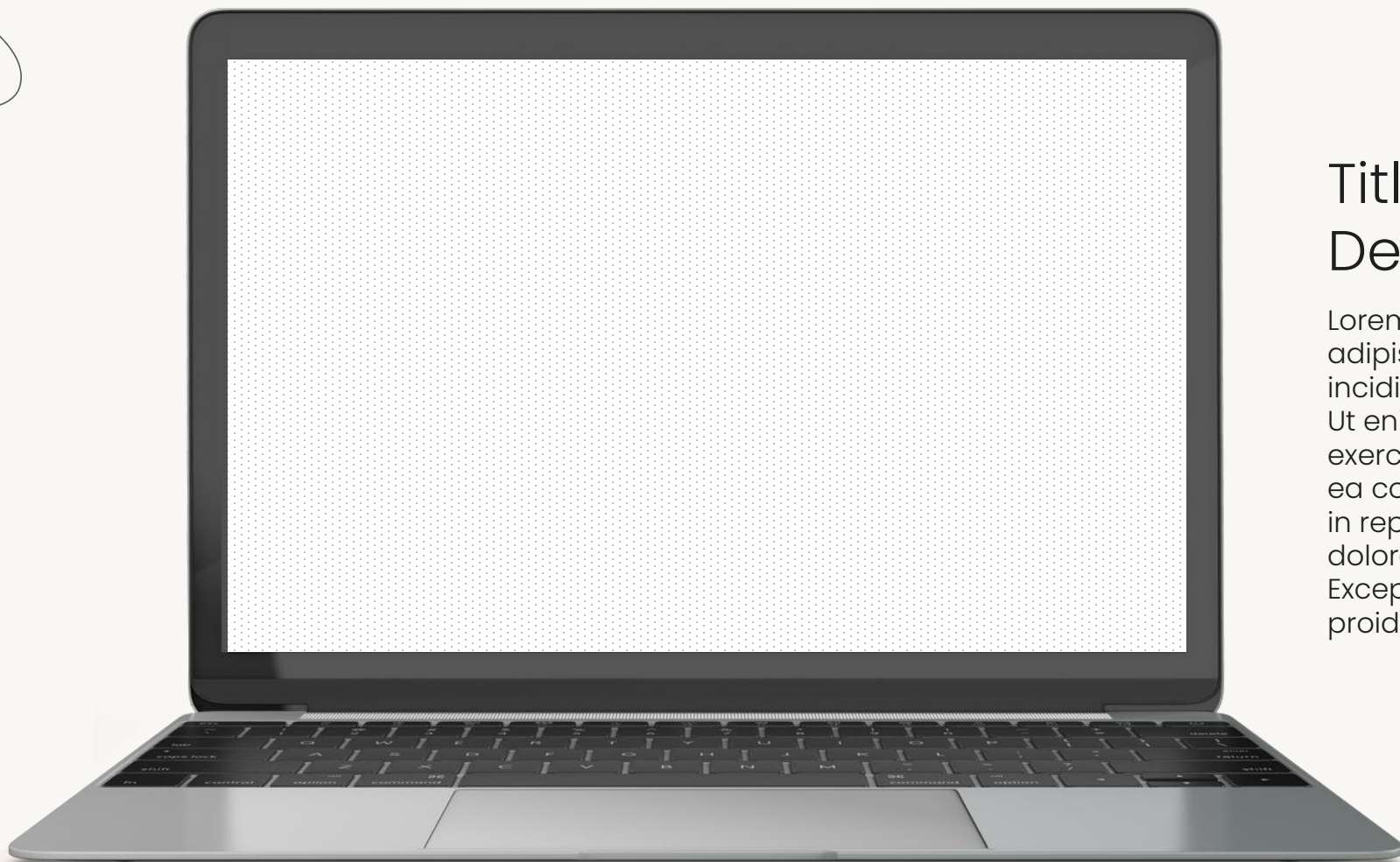


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Title text block & Desktop project

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You can change the stroke and fill color; just select the icon and click on the paint bucket/pen.



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Thanks !

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