

49th
ECLSO

European Contact Lens and
Ocular Surface Congress

EUROPEAN CONGRESS
ON MYOPIA CONTROL

2 - 3
September
2022

Novotel Tour Eiffel

Paris - France



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OPHTHALMOLOGISTS

Contribution of fibrin gel in the treatment of
severe ocular surface diseases

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Lasik.ma



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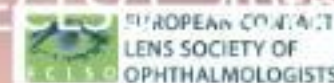
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Speaker's name : Merieme Harouch

I do not have any potential conflict of interest for this presentation.

what is autologous fibrin gel ?

Combination of platelet-rich plasma **PRP** and autologous thrombin serum **ATS**

centrifugation of **autologous** blood: RegenPRP has a very low level of cellular contaminants: red and white blood cells



stem cell

migration, differentiation, proliferation

fibroblasts

stimulation to produce extracellular matrix proteins

2-Plasma

nutrients, vitamins, hormones, electrolytes, growth factors (such as IGF and HGF), and proteins. Among these plasma proteins, the ones essential for the **coagulation process and for the fibrin polymer formation** will serve as a scaffold for cell migration and new tissue generation.

Autologous thrombin serum ATS

Thrombin:

The soluble fibrinogen is converted into fibrin monomers whose polymerization forms the clot.



Autologous Thrombin Serum
Fibrin coagulum
Cell Selector Gel
Red blood cells



Fibrin gel

FIBRIN MESH

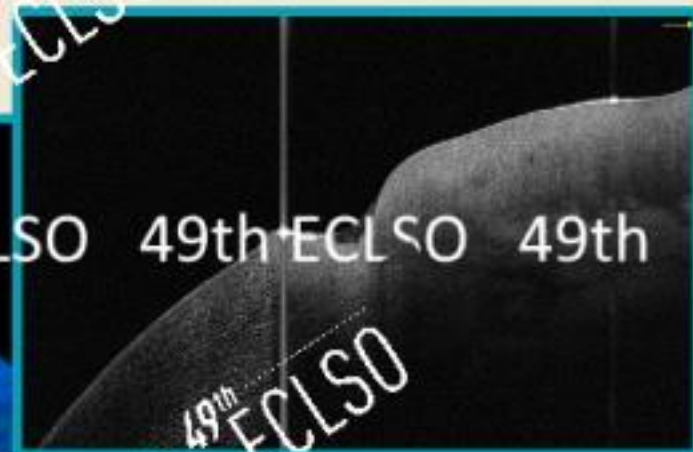
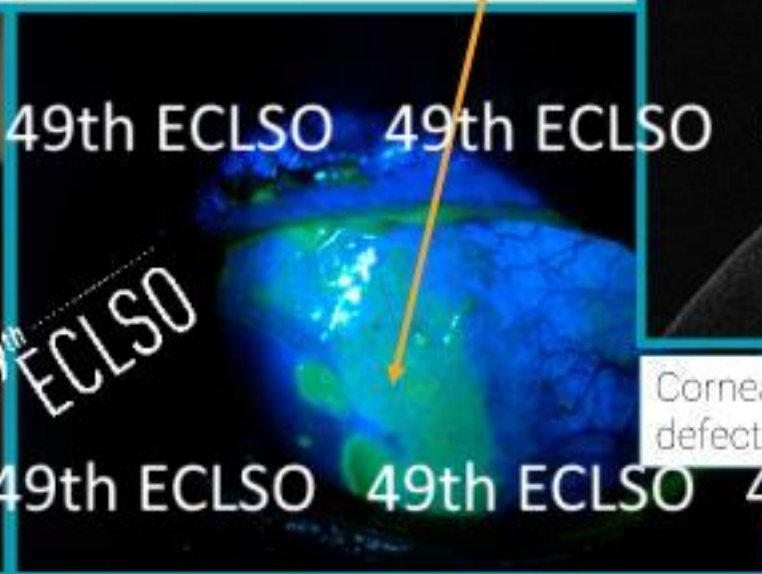
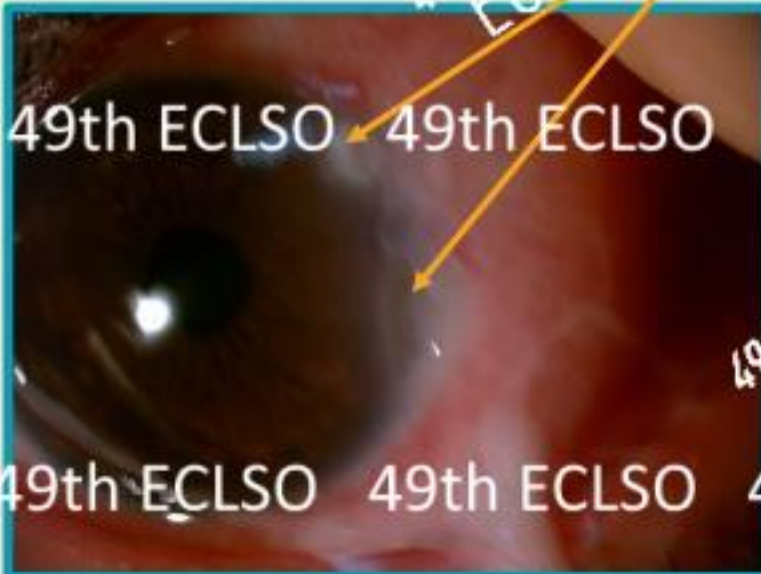


3D fibrin matrix in which platelets rich in growth factors are trapped

Lady, rheumatoid arthritis 52 years old, Cortisone/GI since 4 weeks.

Resistant peripheral ulcer to conventional treatment.

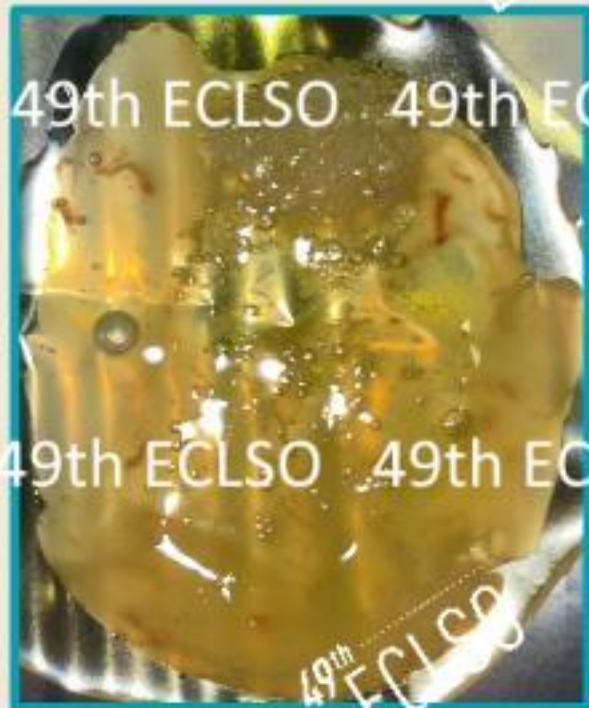
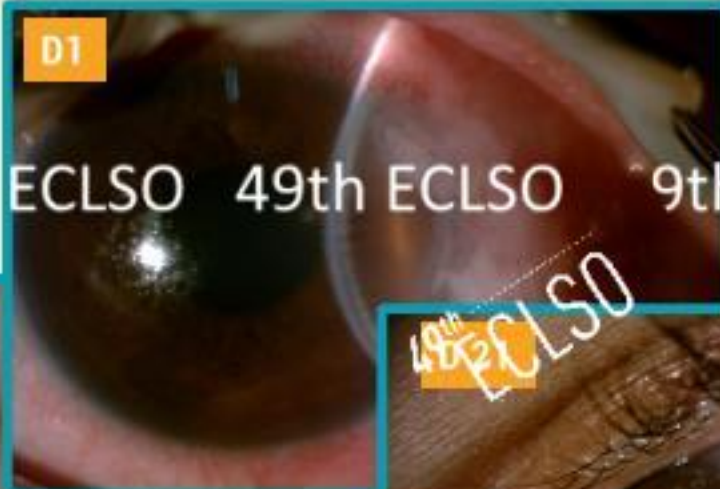
PUK (2 ulcers) + Limbites + scleritis



Corneal OCT: epithelial and stromal defect with oedema.

Fibrin gel: surgery

D1



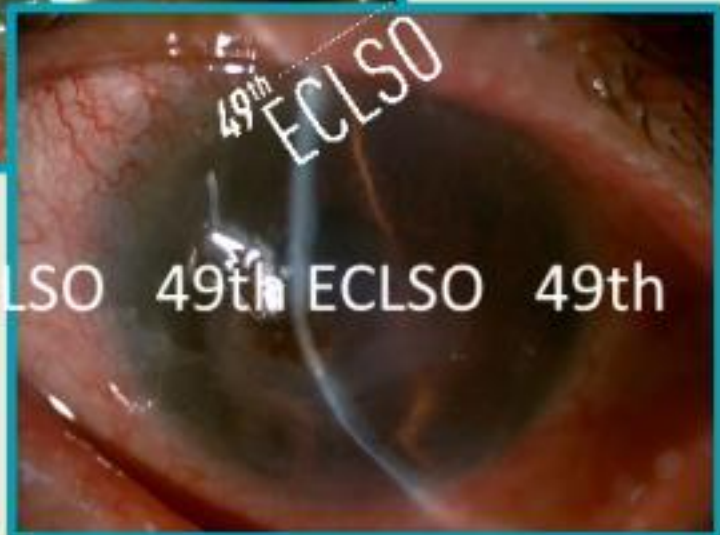
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Fibrin gel: PRP + autologous thrombin serum(ATS) + Ca

Perforated neurotrophic ulcer in diabetic patient



D10: closure of the perforation, healing of the neurotrophic ulcer.



Indications/Results Fibrin gel (10 eyes)



Trophic ulcer(4)	Perforated ulcer(4)	Gougerôt (2)
Post-CXL (1)	MGD (2)	Epitnelial defect (2)
I-SC deficiency. (2)	RA (2)	
Chemical burn (1)		

Good anatomical and functional results

1- ulcer healing in all 10 cases.

2- 100% improvement in visual acuity. 1 case

: Cicatrisation with 2 procedures (Gougerôt)

Autologous fibrin gel: can it replace the amniotic membrane

- 1- Cleavage and filling of loss of substance.
- 2- Matrix healing support.
- 3- Remarkable anti-inflammatory effect.
- 4- Strong regenerative potential.

The first 10 consecutive cases of fibrin gel in surface pathology are being studied and published

Biological stimulation of damaged tissues consists in using the regenerative potential of the tissue by **recruiting local stem cells.**

Indications: all regenerations of the ocular surface, namely corneal defects, severe dryness, conjunctival surgery (biological glue for conjunctival grafts: pterygium), preparation for keratoplasty, LSC deficiency, etc.



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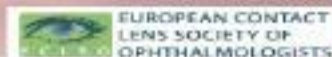
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Conclusion

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Fibrin gel, an autologous fibrin net filled with PRP, has shown and confirmed its bio-regenerative efficacy on severe ocular surface disorders in this

first experience in ophthalmology.

Only advantages noted:

1- No risk of transmission

2- Clinical trials are underway to better understand how fibrinous gel and PRP works in ocular surface diseases so that treatments can be optimized and applied appropriately.

3- Low cost of a biological product in comparison to other therapies used until now, in particular amniotic membrane transplantation.

