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[Commentary] Polymerized Type I Collagen (Fibroquel) as a treatment for COVID-19, Mexican experience

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Abstract

In the present communication the experiences presented in Mexico with a drug with great anti-inflammatory potential in cases of severe COVID-19 are discussed, having experiences with descriptive and exploratory studies up to randomized controlled clinical studies, which show the usefulness of the drug.

Dear editor

Throughout the world, there have been efforts to find specific treatments for COVID-19, which has conditioned excess mortality globally, in Mexico a drug known for its potential to treat inflammatory diseases such as rheumatoid arthritis and osteoarthritis due to its strong anti-inflammatory characteristics, began to be used with good results, called Polymerized Type I Collagen (Fibroquel).[1]

The proposed mechanisms of action of polymerized type I collagen are:

- Negatively modulate the expression of IL-1β, IL-8, TNF-a, TGF-β1, IL-17, Cox-1, and leukocyte adhesion molecules (ELAM-1, VCAM-1, and ICAM-1)
- It significantly increases the mediators and modulating mechanisms of inflammation (expression of IL-10 and the number of regulatory T cells) and decreases tissue fibrosis, without producing adverse effects.
- Negative regulation of the expression of the proinflammatory cytokine storm and the number of effector T cells Th1, Th17, Th22.[1]

Its use is currently becoming widespread thanks to the scientific evidence in favor of the drug, with modest open-label studies up to randomized double-blind placebo-controlled studies, which have positioned the drug within the guidelines of the Pan American Health Organization (PAHO), However, more studies are needed for a full certainty of its indication.[2]

The studies have been carried out in Mexico, predominantly in Mexico City, both in outpatients and hospitalized patients, and in patients with mild to moderate disease where mortality has been practically nil, to patients with severe inflammatory and hypoxemic pneumonia with mortality rates of 7-10%, the adverse effects are practically null and have not conditioned an increase in the morbidity of the patients (Table 1).[3][4][5][6]

Table 1. Clinical studies carried out with fibroquel as a treatment for COVID-19

	Trial type	n	Population	Mortality	City
Méndez et-al	Double-blind, randomized, placebo-controlled	89	Adults with mild to moderate disease due to COVID-19	0%	Mexico city
Castro, HA	Open-label	20	Adult outpatients with symptomatic COVID-19.	0%	Mexico city
Melchor et-al	Randomized, placebo-controlled	54	Adult out and inpatients with moderate to severe COVID-19	8%	Mexico city
Del Carpio et-al	Open-label	35	Adults out and inpatients with hypoxemic inflammatory pneumonia secondary to COVID-19	10%	Veracruz
Del Carpio et-al	Open-label	70	Adults out and inpatients with hypoxemic inflammatory pneumonia secondary to COVID-19	7%	Veracruz

Efforts are currently being made to make this Mexican experience known to the rest of the world so that they can benefit from these results comparable to the use of the so-called jakinibs or anti-IL-6/IL-1 without their potential side effects. Works have been presented in Latin American and European congresses hoping for good acceptance of this treatment that shows hope and we communicate these results and experiences through scientific journals; These days the main controlled clinical study that demonstrated the usefulness of the drug was published in Medscape. Experiences of some hospitals using fibroquel have also been reported and presented at world infectious disease congresses as good acceptance. We consider Fibroquel to be an encouraging option in cases of severe pneumonia due to COVID-19. [7][8][9][10][11]

References

1. [a, b]*Del Carpio-Orantes L. Colágeno polimerizado tipo I como potencial tratamiento contra COVID-19. Med Int Méx 2022; 38 (1): 167-170.*
2. [^]*Ongoing Living Update of COVID-19 Therapeutic Options: Summary of Evidence. Rapid Review, 4 May 2022 PAHO/IMS/EIH/COVID-19/22-0015 © Pan American Health Organization, 2022*
3. [^]*Méndez-Flores S, Priego-Ranero Á, Azamar-Llamas D, Olvera-Prado H, Rivas-Redonda KI, Ochoa-Hein E, et-al. Effect of polymerized type I collagen on hyper inflammation of adult outpatients with symptomatic COVID-19. Clin Transl Med. 2022 Mar;12(3):e763. DOI: 10.1002/ctm2.763.*
4. [^]*Hilda ACRMD. Safety and efficacy of Fibroquel® (polymerized type I collagen) in adult outpatients with moderate COVID-19: an open-label study. J Anesth Crit Care Open Access. 2021;13(2):101–108. DOI: 10.15406/jaccoa.2021.13.00478*
5. [^]*Melchor-Amador JR, Mota-González E, Amador-Ayestas SM, Castelan-López M, Vidal-Méndez AM, Ojeda-Guevara*

JA, et-al. Polymerized type I collagen improves the mean oxygen saturation and efficiently shortens symptom duration and hospital stay in adult hospitalized patients with moderate to severe COVID-19: Randomized controlled clinical trial. J Anesth Crit Care Open Access. 2021;13(6):190–196. DOI: 10.15406/jaccoa.2021.13.00495

6. ^*Carpio-Orantes LD, García-Méndez S, Sánchez-Díaz JS, Aguilar-Silva A, Contreras-Sánchez ER, Hernández-Hernández SN. Use of Fibroquel® (type I polymerized collagen) in patients with hypoxemic inflammatory pneumonia secondary to COVID-19 in Veracruz, Mexico. J Anesth Crit Care Open Access. 2021;13(1):69–73. DOI: 10.15406/jaccoa.2021.13.00471*
7. ^*https://www.researchgate.net/publication/356840728_Uso_de_Colageno_Polimerizado_Tipo_I_en_pacientes_con_neumonia_inflamatoria_hipoxemica_secundaria_a_COVID-19_en_Veracruz_Mexico*
8. ^*https://academicmedicaleducation.com/meeting/european-meeting-hiv-hepatitis-2021/abstract/use-fibroquelr-type-i-polymerized-collagen*
9. ^*Loewy, MA. COVID-19: el resumen semanal (13 al 19 de mayo de 2022) - Medscape - 20 de mayo de 2022.*
10. ^*Del Carpio-Orantes, L. (2022). New off-label or compassionate drugs and vaccines in the fight against COVID-19. Microbes, Infection and Chemotherapy, 2, e1430. https://doi.org/10.54034/mic.e1430*
11. ^*Del Carpio-Orantes L, Márquez-Rodriguez LA, García-Pérez JL, et al. 563. Experience of a Private Hospital in the Treatment of COVID-19 Pneumonia in Veracruz, Mexico. Open Forum Infect Dis. 2021;8(Suppl 1):S383-S384. Published 2021 Dec 4. doi:10.1093/ofid/ofab466.761*