Favre-Racouchot syndrome: report of a case treated by plasma exeresis.

Plasma exeresis for solar comedo

E Rossi*, A Paganelli*, VD Mandel1, G Pellacani1

1. Department of Dermatology, University of Modena and Reggio Emilia, Italy

*Elena Rossi and Alessia Paganelli equally contributed to this manuscript and should be considered co-first authors.

Corresponding author: Alessia Paganelli, via del Pozzo 71 Modena, IT 41124

Tel. n. +390594224264; Fax n. +390594224271; email: alessia.paganelli@gmail.com

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Favre-Racouchot syndrome: report of a case treated by plasma exeresis.

Favre-Racouchot disease (FRD), also known as solar comedo, is a disorder of cosmetic concern relatively common in middle-aged adults1. It is characterized by the presence of multiple open and closed comedones in an actinically-damaged skin, with preferential localization to periorbital and

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/jdv.15003

This article is protected by copyright. All rights reserved.
temporal areas. Major risk factors for FRD seem to be chronic UV exposure, cigarette smoking and radiation therapy\textsuperscript{2,3,4}. Histologically FRD is characterized by significant actinic elastosis and epidermal atrophy\textsuperscript{5}. Although FRD is a common condition, there are not many treatment options. No official guidelines are today available. Important preventive measures include avoidance of sun exposure and to stop smoking\textsuperscript{6}. Main therapeutic options include topical retinoids and laser treatment\textsuperscript{7,8}. Based on the idea that it is a useful instrument both for sebaceous cysts and active acneic lesions\textsuperscript{9}, we present a case of FRD treated with plasma exeresis (PE), a new technology in the field of aesthetic dermatology\textsuperscript{10}. No other cases treated with this particular technique have been previously described.

We describe the case of a 65 years-old man referred to a specialist for the presence of periorbital and malar cysts and comedones. The patient was a former smoker (>30 pack-year) and had a history of chronic sun exposure. The patient was diagnosed FRD and treated with PE, performed with Plexr (Gmv, Roma, RM, Italy), after obtaining informed consent. PE is an emerging technique to treat several skin conditions based on plasma generation by the instrument itself. According to the type of skin blemish requiring treatment, two different kinds of techniques can be used: a) spray technique (or continuous mode): for the removal of lesions like seborrheic keratoses, solar lentigos, fibromas, etc.; b) spot technique: used for the treatment of skin laxities through sublimation of punctiform areas with no overlaps, never lasting more than 2 seconds. PE was applied with the spray technique. No local anesthetic was necessary: topical anesthetic cream was applied by the specialist 30 minutes before the procedure. After disinfection, the creation of a tiny hole on the skin surface of each comedo and cyst was performed; the material was then extruded by applying uniform, centripetal pressure around the lesion using fingertips and gauze. For larger lesions (3 cysts of lower right eyelid), a Micro Hartman Alligator Ear Forceps was inserted into the hole to grab the capsule and help the content extrusion. The efficacy of the treatment was monitored during every follow-up visit both with physical examination and periodic acquisition of clinical images, collected by an 8 megapixel-iSight camera, with pixels of 1.5 \textmu m. Pictures were taken, once obtained informed consent, just before the treatment, immediately after the treatment session, and 60 days after. The
This article is protected by copyright. All rights reserved.


**Legends**

*Figure 1.* Plexr (Gmv, Roma, RM, Italy). Plasma exeresis consists on ionization of gases present in the atmosphere of the so-called “gap”, which is the empty space at the interface between the tip and the skin surface to treat (upper right panel). The instrument is very handy and easily manoeuvrable.

*Figure 2.* Clinical efficacy of plasma exeresis. Pictures were taken respectively (from left to right panel) before the procedure (T0), immediately after the treatment (T1) and 60 days after cyst...
removal (T2). Left side is shown on upper panels, while right side is on the lower ones. Yellow circles in the first panel on left indicate the three cysts that needed capsule removal through forceps.