**P5007. Anti-hyaluronidase activity assessment in human skin injected by hyaluronic acid.**

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**Background:** modern management of aging skin is made by combined measures and treatments: prevention of extrinsic aging (sun avoidance) associated to topical active ingredients and dermo-esthetic procedures as fillers and laser resurfacing. Hyaluronic acid (HA) is one of the main glucosaminoglycans playing an important role in skin aging. Natural or injected HA is continuously remodeled by hyaluronidase.

**Objectives:** to assess the effects of a topical formulation on injected hyaluronic acid in human skin submitted to hyaluronidase.

**Materials and methods:** Normal human skin explants were maintained in survival medium BIO-EC Explants Medium®. Skin explants (n=18) were injected in reticular superior dermis with hyaluronic acid - HA (Teosyal® Pure Sense, 50µl per explant). A solution of hyaluronidase (7.5µl, 4000 U) was added in the explants’ survival medium. Anti-hyaluronidase emulsion, verum V (based on ISO3R™ - an association of a cyclic peptide, hyaluronic acid of low molecular weight 340 Daltons, Edelweiss extract and Uriage thermal water) or treated by its excipient (E) were applied on skin surface, once per day for 9 days. At D0, D6 and D9 skin sections were examined in immunohistochemistry by hyaluronate binding protein (HABP) staining (Seikagaku® at 1/125°).

**Results:** eighteen human normal skin explants injected by hyaluronic acid were examined. At D9, in skin injected by HA, not submitted to hyaluronidase and untreated by V or E, the expression of HABP was found in papillary and medium dermis (Fig.2). HABP was absent in skin treated by E and submitted to hyaluronidase (Fig.3). HABP expression was found in papillary and medium dermis of the skin treated by V and submitted to hyaluronidase (Fig.4).

**Conclusions:** in this immunohistochemistry analysis of human skin injected by hyaluronic acid then submitted to hyaluronidase, an emulsion anti-hyaluronidase (V) provided a better preservation of the injected hyaluronic acid compared to skin treated by its excipient (E).

**References**