**Objective**

HF is a very hazardous acid used mainly in glass etching, surface treatment and electronics manufacturing. Its very hazardous properties are due to a double mechanism of action:

- corrosiveness, due to the presence of H⁺,
- local and systemic toxicity, due to the presence of F⁻.

The aim of this presentation is to determine the benefit of different rinsing protocols versus no decontamination on an innovative ex vivo model. (This new ex vivo model is presented in poster n°739).

**Methods**

86 explants of human skin were divided into 4 groups:

1. control
2. one group without decontamination;
3. one with 15 minutes of tap water flushing plus one topical application of calcium gluconate (CaGlu) 1g/cm²;
4. one washed with Hexafluorine® during 10 minutes.

**Water flushing of the explants during 15 minutes, prior to CaGlu application (1g/cm²)**

**Hexafluorine® washing with sprays during 10 minutes**

The exposition to HF was done during 20 seconds by topical route from filter paper disks, previously saturated with 30 µl 70% acidic solution.

Histological samples were taken at the end of washing, then regularly up to 24 hours. The observations were performed by optical microscopy X40.

**Results**

Results are presented in Table 1. Alterations were searched for in stratum corneum, basal epidermis, papillary and reticular dermis.

**Results (continued)**

Control group: no lesions in any layer at anytime.

HF-exposed explants without decontamination: severe burns in the 4 layers, from 10 minutes onwards.

With tap water plus CaGlu: alterations of the 4 layers after 15 minutes, decreasing after 30 minutes. Resumption of lesions in epidermal cells from the 4th hour onwards and in dermal cells at 24h.

With Hexafluorine® decontamination: no alteration of epidermal or dermal cells, even after 24h.

These results are in accordance with those obtained on an ex vivo model for the eye (1). The effectiveness of Hexafluorine® decontamination, in this study, can be linked with successful results (without secondary care or systemic effects) obtained on three 70% HF workplace splashes (2), (3).

**References**

(3) Mathieu L et al. Comparative evaluation of the active eye and skin chemical splash decontamination solutions Diphosphate and Hexafluorine with water and other rinsing solutions: Effects on burn severity and healing. JERHAS 2011, July/August 2007, p32-39