Oral Abstracts

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CHEMICAL BURNS: FIRST AID REGARDING HUNDRED EXPOSURES

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Objectives: Compare treatment results obtained from different first aid managements using water and/or polyvalent hypertonic amphoteric first-aid solution stopping corrosive reactions registered as a Medical Device.

Method: During 10 months period, chemical burns were registered. Water was used by patient within the first 10 minutes after exposure on site. Polyvalent solution was used 20 minutes after exposure upon arrival at clinic. When both rinsing solutions were used, water was used within 10 minutes after exposure and polyvalent solution after 30 minutes. The clinic being situated only 10 minutes away from the industrial area, some patients came to the clinic without first rinsing with water at accident site. Statistical analysis was performed following large or small samples according to the population. After 6 months' study (70 cases), we noticed that the following elements could help improve outcome and they were introduced them from December onwards (40 cases): pain factor upon arrival versus pain factor when leaving clinic and visual acuity upon arrival versus visual acuity when leaving the clinic.

Results: We registered 110 cases of chemical burns in industries. 100% male patients, 71 cases rinsed with water only on in (plant), 31 cases rinsed with polyvalent solution only (at the clinic), and eight cases with water first and polyvalent solution upon arrival at the clinic situated 10mn away from the industrial area, in 32 cases, patients came to the clinic without first rinsing with water.
The comparative study of the 2 added criteria at the end is based on the cases from Dec 2015 until March 2016 (26 for water, 12 for polyvalent solution and 2 for both water and polyvalent solution).
There were 62 ocular, 48 dermal splashes. No patient has shown any side-effects / allergic reaction after using polyvalent solution. Work loss and time of recovery were significantly decreased when polyvalent solution was used compared to water, about a ¼ of the ones with water ($p < 0,01$). When measured, pain score was less important for polyvalent solution before/after washing with water ($p < 0,001$). Visual acuity was also improved ($p < 0,0005$).

Conclusion: Chemical burns classical management can be improved. Number of work-loss days and hospitalization cost when decontaminated with polyvalent solution are decreased. Victims decontaminated with polyvalent solution present pain modification before/after significantly different from those washed with water (less pain) as well as improved visual acuity Clinical study continues to include more patients and additional results.