

THE USE OF ENZYMATIC DEBRIDEMENT IN LARGE BURNS : TWO YEARS OF EXPERIENCE



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The modern era of treatment of burn injury' started a half century ago, in the early seventies with the revolutionary approach of early excision debridement followed by autologous skin grafting. For many decades it's been the gold standard saving many lives and giving us the insight of the basic requirements the better burn care. Surgery is an effective debridement strategy although not selective, ending in massive losses of not injured, vital tissues (mainly dermis), blood and heat.

We hypothesized that selective enzymatic debridement (**ED**) could have a positive outcome by reducing blood, heat and dermal losses, offering a better local control of wound healing and decreasing local and systemic response

MATERIAL AND METHODS

All patients were treated on admission besides resuscitation by cleaning the burns, removing any previous topical medications and the blisters. The clean burn wound were soaked with normal saline until ED application (within 24 h). Following removal of the ED dressing the dissolved eschar and remaining ED were wiped away using sterile wooden tongue depressor. A single ED application sufficed remove the entire eschar. The wound was soaked with normal saline at least 2 hours and then final diagnosis was made. The derided bed was covered with allograft that were left in place until spontaneous epithelialization or autographing of non healing wounds.

RESULTS

	2017	2018
N° PT E.D. (LARGE BURNS)	16/21	19/29
AGE (18 - 96 YS)	50,92	50,5
RANGE % TBSA L.B. > 15%	18÷85%	15÷65%
%TBSA ADMISSION (MEAN)	33,29%	30,91%
% TBSA TREATED (MEAN)	27,5%	29,5%
% SKIN GRAFTS (MEAN)	7%	5,1%
INFECTION CONTAMINATION VS SEPSIS	13 VS 4	17 VS 2
BLOOD TRANSFUSION AFTER E.D.	1	0
N° DAYS OF RECOVERY	44,21	49,94

PLACE OF PERFORMANCE OF E.D.	2017	2018
SICU	7	13
IC	9	14
OR	7	2

PERIOD: FEB 2017- FEB 2019
 N° OF TOTAL ED CASES : 50
 N° OF ED CASES ABOVE 15% TBSA: 35
 AGE (MEAN) : 50,71YS (18 - 96YS)
 GENDER 24M, 11F
 AVERAGE OF TBSA % : 27,36% (15% - 85%)
 TBSA% & ED : 28,5%



ADMISSION

AFTER ED

ALLOGRAFTS

EPITHELISATION

- AREA OF APPLICATION ON THE SINGLE PATIENT: 30% TBSA
- MAX APPLICATION AREA ON SINGLE PATIENT : 60% TBSA
- MAX AGE TREATED WITH E.D. 96 YS



LARGE DEEP FLAME BURNS ON ADMISSION PRIOR TREATMENT

FINAL OUTCOME : MOSTLY SCAR FREE EPITHELIALIZATION DERMIS

CONCLUSION

Regardless its a limited number of patient after two years of experience, obtained results are encouraging. Rapid & selective enzymatic debridement as a minimally invasive tool allowed controlling the burn wound not only on the local level by increasing epithelialization over salvaged dermis and reducing autographing, but it seam also to improve pro and anti-inflammatory response and a better control of SIRS. Further investigations will be necessary to confirm it.