

*Experimental in vivo,  
prospective, randomised, blind  
study of a cutaneous burn  
due to concentrated hydrochloric acid*

- *Cavallini M, Casati A. European Journal of Anaesthesiology 2004, 21, 389-392*
- *Cavallini M, de Broccard F, Corsi MM, Fassati LR, Baruffaldi Preis FW. Annals of burns and fire disasters 2004, XVII, 2, 1-5*

# *In vivo cutaneous study*

- 25 rats Sprague -Dawley 250 gr
- burns on back (3x2 cm)
- use of 0.5 ml of hydrochloric acid (52%)
- time of exposure: 15 seconds
- then washing rats for 30 seconds
- with 250 ml of each rinsing solution

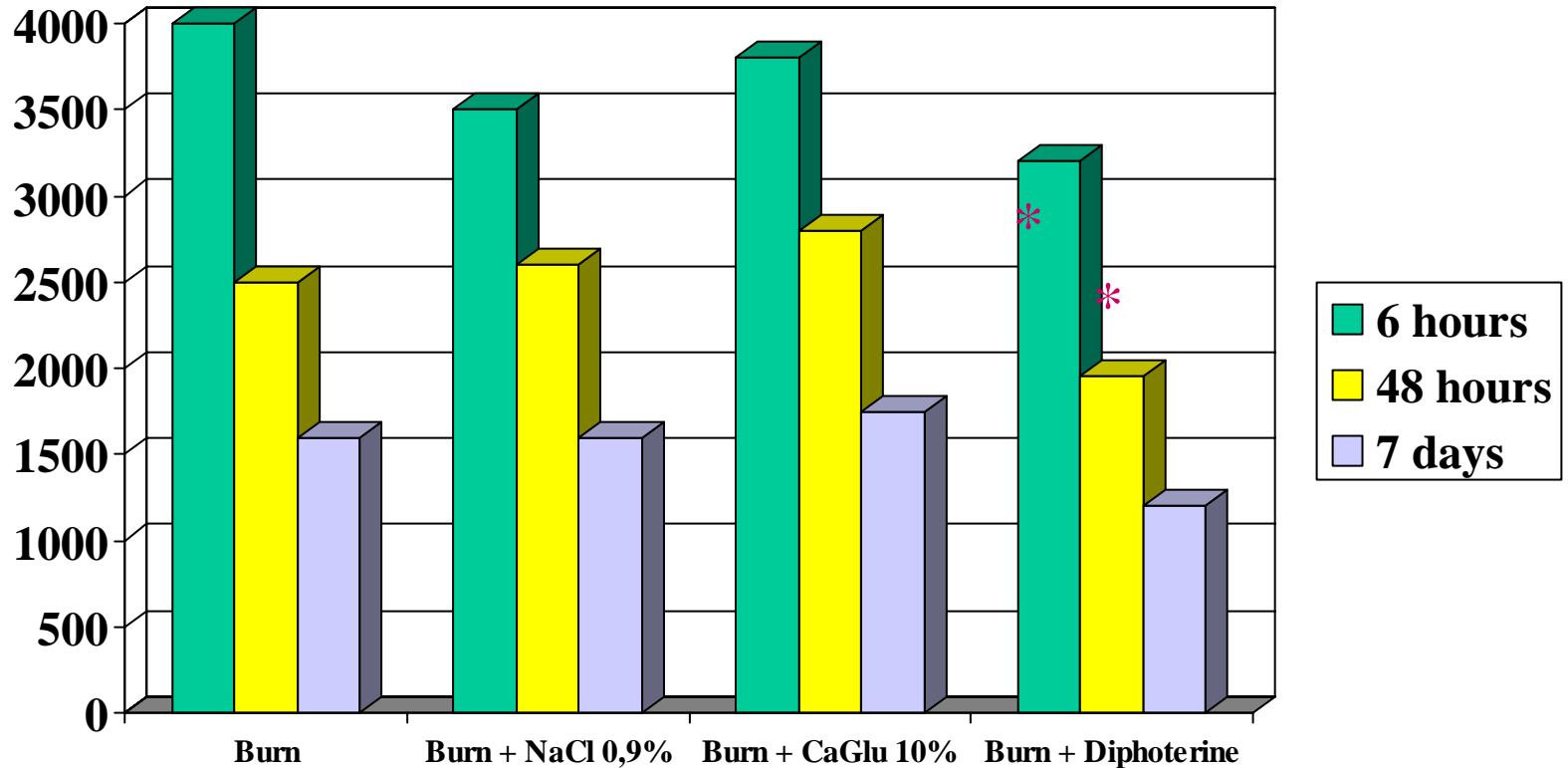
## *In vivo cutaneous study*

- 5 rats with saline solution 0.9%
  - 5 rats with calcium gluconate 10%
  - 5 rats with Diphoterine<sup>®</sup>
  - 5 rats without washing
  - 5 rats group control
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- anesthesia: ketamin 30mg/kg

# *Healing results*

Washing solution	Size of the lesion at day+7
Diphotérine <sup>®</sup>	4
Saline solution	6
Calcium gluconate	9
Without washing	12

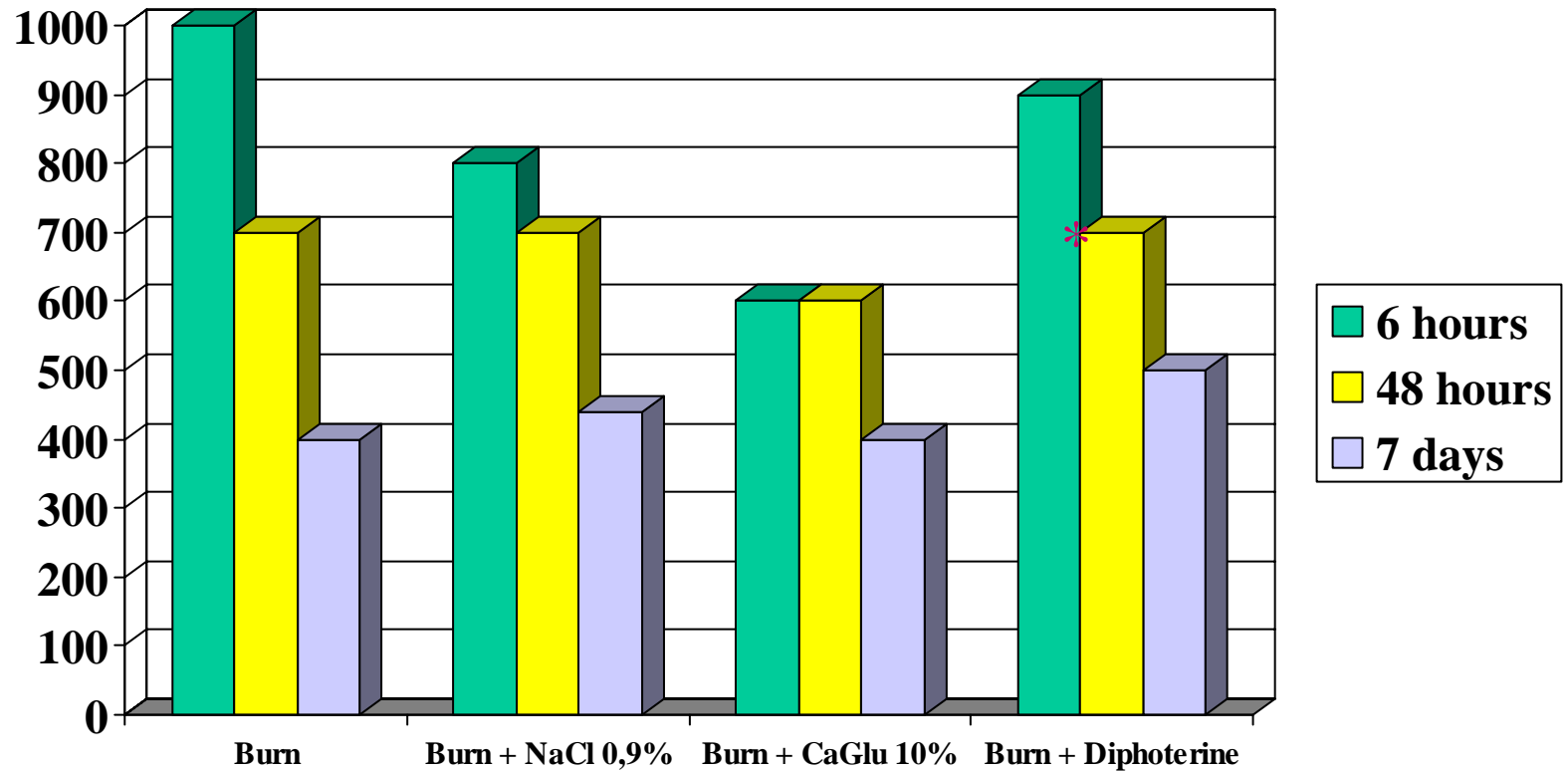
# *Inflammation results reduction of IL<sub>6</sub>*



**IL<sub>6</sub> is decreased and significantly different  
with Diphoterine<sup>®</sup> versus other treatments  
at 48 hours and 7 days ( $0.001 < p < 0.05$ )**

# *Pain Results*

## *Increase of $\beta$ -endorphin*

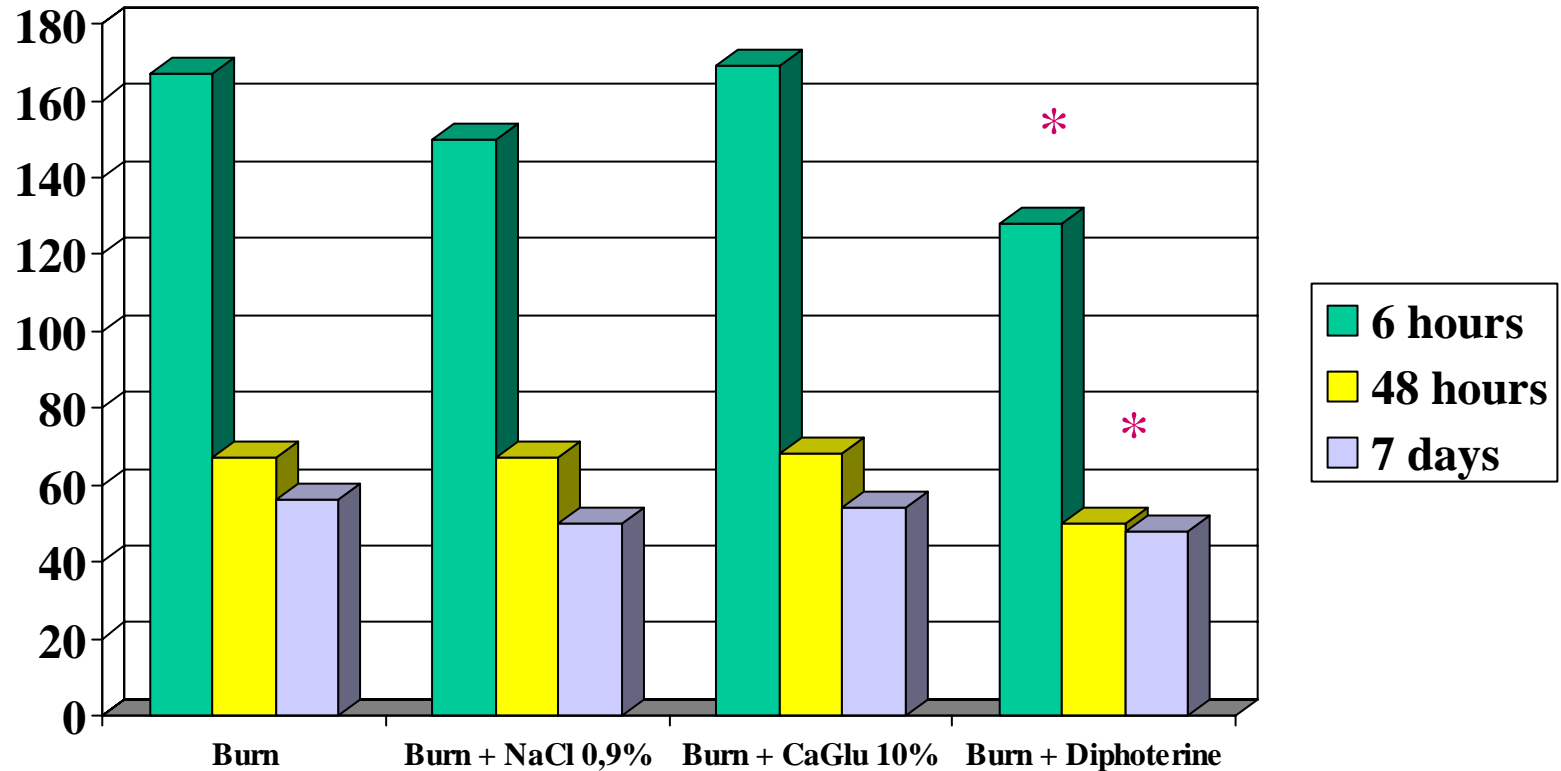


$\beta$ -endorphin is increased and is significantly different with Diphoterine<sup>®</sup> versus other groups after 7 days,

$p < 0.05$

# *Pain Results*

## *Decrease of substance-P*



**Substance-P is decreased and significantly different with Diphoterine<sup>®</sup> versus other groups at 6 and 48 hours,**

**$p < 0.05$**