

BUDGET IMPACT ANALYSIS OF NEXOBRID IN THE PERSPECTIVE OF ITALIAN HOSPITALS (P052)

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Introduction: Deep partial and full-thickness thermal burns represent quite an infrequent medical condition in Italy. Based on epidemiological data available, and considering the declining trend in hospitalizations, some 2,000 patients (1,600 of whom adults) are estimated to be hospitalized and treated for 2nd/3rd degree partial/full thickness thermal burns each year in the country. NexoBrid is a novel drug treatment whose active constituent is a concentrate of proteolytic enzymes enriched in bromelain. It is commercially available in 2g or 5g powder and gel for gel packs, and it is indicated for removal of eschars in adult patients with deep partial and full thickness thermal burns. Scope of the present economic analysis was to estimate the budgetary impact of the introduction of NexoBrid in the current medical practice of Italian hospitals.

Methods: Budget Impact Analysis is a method to estimate the financial effect of the introduction of a new technology in a certain medical environment. In the case of thermal burns treatment the introduction of NexoBrid in the Italian hospital practice was estimated considering the costs and potential savings of using NexoBrid for a hypothetical number of 10 patients who need eschar removal due to deep partial/full thickness thermal burns. The unit cost of drug to Italian hospitals is €4377 per patient considering an average Total Body Surface Area (TBSA) treated of 10% (this corresponds to 10 packs of the 2g powder and gel for gel formulation of NexoBrid). Additional costs and savings versus the current Standard of Care (SOC), were estimated by considering the number of avoided escharotomies, excisions, autografts, savings in Intensive Care Units (ICU) days, transfusions, and treatments of donor site after autografting. Each resource was quantified according to the results from the literature (1) and valued according to Italian published costs and tariffs. Finally the net financial impact was calculated.

Results: Treating 10 patients with mixed burns and/or patients for whom surgery may/should be avoided on 10% TBSA using NexoBrid versus SOC, would generate a hospital cost of €43767; this cost would be totally offset by savings for reduced escharotomies (-2,4%; -€178), excisions (-45,9%; -€7690), autografts (-16,2%; -€20111), blood transfusions (-44% of wound area excised; -13% of wound area autografted; -€102), changes of topical dressings for donor site (-€3456) and ICU days (-6,5 days; -€3640). Thus the total saving for treating 10 patients with NexoBrid versus SOC would be -€42410.

Conclusion: As shown by our analysis the overall balance is in favour of investment in NexoBrid, as each Euro spent on NexoBrid yields savings of 2 Euros on other costs (EUR 43767 - saving of EUR 86177 = net saving of EUR 42410 for 10 patients). Attention should be also drawn to the resulting positive patient outcomes in terms of burn wound management, treatment, grafting (as smaller grafted areas allow saving healthy tissue both on primary wounds and donor sites), and post-surgery scar management, with advantages that generate positive effects on patients' quality of life.

References:

(1) Rosenberg L, Krieger Y, Bogdanov-Berezovski A, Silberstein E, Shoham Y, Singer AJ. A novel rapid and selective enzymatic debridement agent for burn wound management: a multi-center RCT. *Burns*. 2014 May;40(3):466-74.