

Title: Oral Probiotic Reduces Pain After Third Molar Extraction Procedure

Authors: Ramon Pons Calabuig¹, Elvira Ferrés-Amat^{1,2}, Eduard Ferrés-Amat¹, Javier Mareque-Bueno^{1,2}, Elisabet Navarro Tapia³, Erola Astó Sanchez-Lafuente³, Jordi Espadaler Mazo³, and Eduard Ferres Padró^{1,2}

Affiliation: ¹Department of Oral and Maxillofacial Surgery. Faculty of Dentistry. Universitat Internacional de Catalunya. Barcelona. España. ²Service of Oral and Maxillofacial Surgery. Fundació Hospital de Nens de Barcelona. España. ³AB-BIOTICS S.A. ESADE Creapolis. Sant Cugat del Valles. España.

Introduction:

The oral cavity is the habitat of more than 700 bacterial species and its interaction with the host is associated with oral health [1]. In this regard, caries, periodontitis and other infections are now recognized to be caused by a polymicrobial biofilm rather than a single pathogen [2]. It has been stated that oral administration of probiotics may benefit oral health by preventing the growth of harmful microbiota and/or by modulating mucosal immunity in the oral cavity [3]. The mix of the *Lactobacillus plantarum* CECT 7481 and *Lactobacillus brevis* CECT 7480 strains has previously shown *in vitro* activity against pathogens that cause gingival disease, dental caries, bad breath and dental plaque [3].

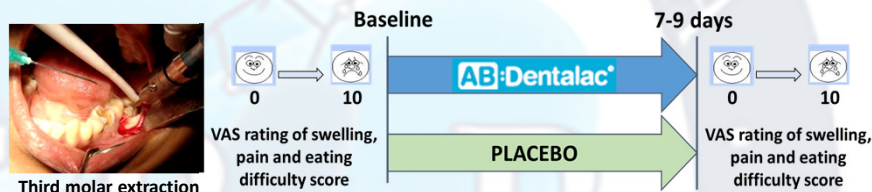
Also, a randomized controlled clinical trial with these two probiotic strains (AB-Dentalac®, AB-Biotics, S.A) showed a significant reduction of bleeding gingival spots and the concentration of *Tannerella forsythia* (implicated in the worsening of gingivitis towards periodontitis) [4]. The mandibular third molar is the most common tooth to become impacted and to produce pericoronitis, and its extraction is one of the most ubiquitous procedures performed by oral and maxillofacial surgeons. Surgical removal of third molars is often associated with local postoperative pain, swelling, and eating difficulty. And although these symptoms are expected and typically transient among patients, they generate great discomfort, and new strategies to reduce their impact are of interest.

Objectives:

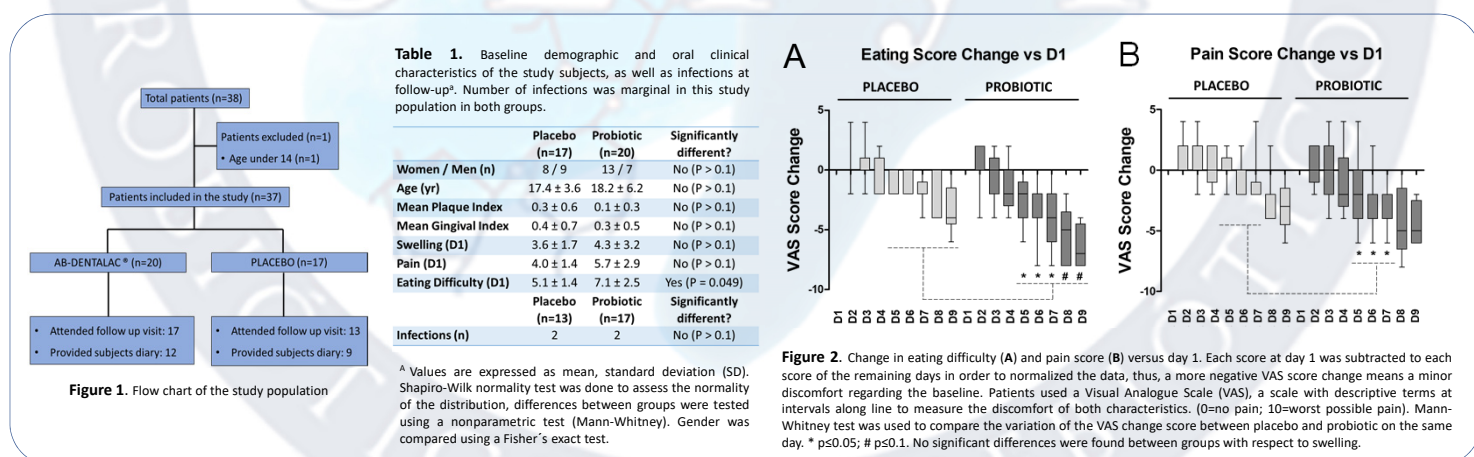
The aim of this randomized pilot study was to evaluate the impact of an oral probiotic (AB-Dentalac®, a mix of the *Lactobacillus plantarum* CECT 7481 and *Lactobacillus brevis* CECT 7480 strains) on clinical parameters after tooth extraction.

Methods:

Double-blind, randomized clinical trial, comparing placebo to probiotic (AB-Dentalac®, AB-Biotics S.A). Subjects without dental plaque and gingivitis undergoing a third molar extraction were randomized to placebo or probiotic, twice daily for 7 days after brushing their teeth. Exclusion criteria included chronic disease, age <14 yr, current antibiotic or probiotic use, and toxic habits. Subjects rated each of swelling, eating difficulty and pain in a 0-10 scale, daily, in a Subjects Diary. Extraction site infection was assessed by specialists 7-9 days post-extraction.



Results:



Conclusions:

- ✓ After third molar extraction, oral probiotic (AB-DENTALAC®) helps achieve a larger reduction in pain and eating difficulty towards the end of the first week.
- ✓ This study is the first carried out in order to evaluate the effect of a probiotic on post-surgical clinical parameters (pain, swelling and feeding problems).
- ✓ Our results open the possibility for local application of oral probiotics to improve the quality of life of patients after an oral surgery, warranting further studies.

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Conflict of interest:

E.A; E.N and J.E are full time employees from AB-Biotics SA. JMB has acted as consultant of AB-Biotics SA. Other authors report no conflicts of interest.