

The Outer Membrane of *Brucella ovis* Shows Increased Permeability to Hydrophobic Probes and Is More Susceptible to Cationic Peptides than Are the Outer Membranes of Mutant Rough *Brucella abortus* Strains

Enrique Freer¹, Javier Fizarro-Cerdá², Andrej Weintraub³, José-Antonio Bengoechea⁴, Ignacio Moriyón⁴, Kjell Hultenby⁵, Jean-Pierre Gorvel² and Edgardo Moreno⁶

Unidad de Microscopía Electrónica, Universidad de Costa Rica, San José¹, and Programa de Investigación en Enfermedades Tropicales, Escuela de Medicina Veterinaria, Universidad Nacional, Heredia², Costa Rica; Centre d'Immunologie de Marseille-Luminy, Marseille-Luminy, France³; Department of Immunology, Microbiology, Pathology and Infectious Diseases, Division of Clinical Bacteriology Karolinska Institute⁴, and Clinical Research Center⁵, Huddinge University Hospital, Huddinge, Sweden; and Departamento de Microbiología, Universidad de Navarra, Pamplona, Spain⁶

Abstract of:

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The permeability of the outer membrane (OM) to hydrophobic probes and its susceptibility to bactericidal cationic peptides were investigated for natural rough *Brucella ovis* and for mutant rough *Brucella abortus* strains. The OM of *B. ovis* displayed an abrupt and faster kinetic profile than rough *B. abortus* during the uptake of the hydrophobic probe N-phenyl-naphthylamine. *B. ovis* was more sensitive than rough *B. abortus* to the action

of cationic peptides. Bactenecins 5 and 7 induced morphological alterations on the OMs of both rough *Brucella* strains. *B. ovis* lipopolysaccharide (LPS) captured considerably more polymyxin B than LPSs from both rough and smooth *B. abortus* strains. Polymyxin B, poly-L-lysine, and poly-L-ornithine produced a thick coating on the surfaces of both strains, which was more evident in *B. ovis* than in rough *B. abortus*. The distinct functional properties of the OMs of these two rough strains correlate with some structural differences of their OMs and with their different biological behaviors in animals and culture cells.

Randomized comparison of coronary stent implantation and balloon angioplasty in the treatment of de novo coronary artery lesions (START): a four-year follow-up

Betriu A, Masotti M, Serra A, Alonso J, Fernández Aviles F, Gimeno F, Colman T, Zueco J, Delcan JL, García E, Calabuig J

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Objective: The purpose of this study was to test the hypothesis that stent implantation in de novo coronary artery lesions would result in lower restenosis rates and better long-term clinical outcomes than balloon angioplasty.

Background: Placement of an intracoronary stent, as compared with balloon angioplasty, has proven to reduce the rate of restenosis. However, the long-term clinical benefit of stenting over angioplasty has not been assessed in large randomized trials.

Methods: We randomly assigned 452 patients with either stable (129 patients) or unstable (323 patients) angina pectoris to elective stent implantation (229 patients) or standard balloon angioplasty (223 patients). Coronary angiography was performed at baseline, immediately after the procedure and six months later. End points were the rate of restenosis at six months and a composite of death, myocardial infarction (MI) and target vessel revascularization over four years of follow-up.

Results: Procedural success rate was achieved in 84% and 95% (balloon angioplasty vs. stent, respectively). The increase in the minimal luminal diameter was greater in the stent group both after the intervention (2.02 +/- 0.6 mm vs. 1.43 +/- 0.6 mm in the angioplasty group; p < 0.0001), and at six-month follow-up (1.98 +/- 0.7 mm vs. 1.63 +/- 0.7 mm; p < 0.001). The corresponding restenosis rates were 22% and 37%, respectively (p < 0.002). After four years, no differences in mortality (2.7% vs. 2.4%) and nonfatal MI (2.2% vs. 2.8%) were found between the stent and the angioplasty groups, respectively. However, the requirement for further revascularization procedures of the target lesions was significantly reduced in the stent group (12% vs. 25% in the angioplasty group; relative risk 0.49, 95% confidence interval 0.32 to 0.75, p = 0.0006); most of the repeat procedures (84%) were carried out within six months of entry into the study.

Conclusions: Patients who received an intracoronary stent showed a lower rate of restenosis than those treated with conventional balloon angioplasty. The benefit of stenting was maintained four years after implantation, as manifested by a significant reduction in the need for repeat revascularization.

Do the low molecular weight heparins improve efficacy and safety of the treatment of deep venous thrombosis? A meta-analysis

Eduardo Rocha^o, Miguel Angel Martínez-González[#], Ramón Montes^o, Carlos Panizo^o

^{*}Hematology Service, University Clinic of Navarra, Pamplona;

^oHemostasis and Thrombosis Research Unit, School of Medicine, University of Navarra, Pamplona;

[#]Preventive Medicine, School of Medicine, University of Navarra, Pamplona, Spain

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Background and Objectives: We compared the efficacy and safety of low molecular weight heparins (LMWH) and unfractionated heparin (UFH) in the treatment of deep venous thrombosis (DVT). A comparison between two daily subcutaneous injections of LMWH against a single injection was also performed.

Design and Methods: The study was performed by a meta-analysis. Clot improvement in venography, recurrency, total mortality and major hemorrhages were assessed in 4,472 patients with DVT from 21 studies treated with subcutaneous LMWH or UFH.

Results: An improvement in clot reduction (odds ratio 0.73, 95% confidence interval 0.59 to 0.90, $p = 0.004$), a decrease in total mortality (0.68, 0.50 to 0.91, $p = 0.012$) and a lower incidence of hemorrhage (0.65, 0.43 to 0.98, $p = 0.047$) were observed in LMWH treated patients. There were no differences in recurrences (0.78, 0.59 to 1.04, $p = 0.10$). A single dose of LMWH was better than two in reducing major bleeding ($x_2 = 4.99$, $p = 0.025$); however, the two dose regimen was more effective in clot reduction ($x_2 = 8.56$, $p = 0.004$).

Interpretation and Conclusions: LMWH is superior to UFH in terms of safety and efficacy. A single daily dose of LMWH dose is a suitable therapeutic regimen and could facilitate the outpatient treatment of venous thromboembolism.

International study of asthma and allergies in childhood. Results on rhinitis of first phase in Pamplona, Spain

N. Carvalho^{*}, M. Fernández-Benítez, L. Cascante^{**}, I. Aguinaga^{***} and F. Guillén^{****}

Department of Allergology and Clinical Immunology. ^{*}Department of Paediatrics. University Clinic of Navarra. Faculty of Medicine. University of Navarra. Pamplona, Spain. ^{**}Servicio Navarro de Salud. Pamplona, Spain. ^{***}University of Navarra, Pamplona, Spain.

^{****}Public University of Navarra. Pamplona, Spain

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Background: The ISAAC (International Study of Asthma and Allergies in Childhood) was thought in order to maximize the value of epidemiological research into asthma and allergic diseases in childhood, establishing a standardized methodology and facilitating collaboration and comparison between several countries.

Methods and Results: The written questionnaires in the group of children aged 6-7 years was answered by the parents and the group of children aged 13-14 years self-completed the written questionnaires.

Results: 3.040 children aged 1 3-1 4 years answered the questionnaire and 3.002 in the group aged 6-7 years. In the group of children aged 13-14, 49.7% referred rhinitis symptoms some time, and 15.6% in the 6-7 year old group. The prevalence of nasal symptoms in the last year was 35.5% in the 13-14 year group and 1 0.6% in the 6-7 year group. The presence of nasal symptoms was more frequent in winter. The prevalence of seasonal allergic rhinitis (hay fever) was 6.1 % in the 13-14 year group and 4.8% in the group of children aged 6-7 years.

Conclusions: These results can contribute to a better control of some factors and to future studies where the etiology and incidence of the disease could be investigated.