Disinfection by Sodium Hypochlorite: Dialysis Applications
Disinfection by Sodium Hypochlorite: Dialysis Applications

Volume Editors

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32 figures, 7 in color, and 24 tables, 2007
Dedication

Amuchina’s history has been part of my family for over 50 years. My grandfather Pietro bought Amuchina Company from Eridania, a large Italian sugar company, in 1948.

My grandfather Pietro and my father Giorgio spent all their work and energy to improve and promote the use of Amuchina as an antiseptic and a disinfectant. Since then our mission has been the prevention of infections. After so many years of activity, we can surely say their goals were achieved.

They were always convinced of the importance of the scientific research. During their tenure, more than 400 studies have been performed and collected. In the early years, the attention was reserved principally to the treatment of wounds and burns. Later, starting in the 70s, my father was pivotal in addressing Amuchina’s attention to the developing world of dialysis.

The Amuchina Study and Research Center is dedicated to Pietro. This book represents a tribute to my father Giorgio’s untiring work and dedication.

Gratefully, Disinfection by Sodium Hypochlorite: Dialysis Applications is dedicated to his memory.

Ludovico Giavotto
Alcavis International, Inc.
Contents

IX Preface
Ronco, C. (Vicenza); Mishkin, G.J. (Gaithersburg, Md.)

Chemistry and Toxicology

1 Antisepsis
Bianchi, P.; Buoncristiani, E.; Buoncristiani, U. (Perugia)

7 Sodium Hypochlorite: History, Properties, Electrochemical Production
Ponzano, G.P. (Genova)

24 Toxicity and Safety of Topical Sodium Hypochlorite
Bruch, M.K. (Hamilton, Va.)

Applications in Hemodialysis

39 Disinfection of Dialysis Monitors
Ghezzi, P.M. (Montemassi); Bonello, M. (Anagni); Ronco, C. (Vicenza)

61 Biofilm on Artificial Surfaces
Cappelli, G.; Ricardi, M.; Ravera, F.; Ligabue, G.; Ballestri, M.; Bonucchi, D.; Bondi, M. (Modena)

72 Compatibility of Electrolytically Produced Sodium Hypochlorite Solutions on Long-Term Implanted Dialysis Catheters
Mishkin, G.J. (Gaithersburg, Md.)
84 Hemodialysis Catheter Exit Site Care
   Astle, C.M. (Edmonton)

97 Effectiveness of Sodium Hypochlorite in the Prevention of Catheter Related Infections
   Cruz, D.N.; Ocampo, C.; Brendolan, A.; Menara, G.; Corradi, V.; de Cal, M.;
   Polanco, N.; Kuang, D.; Nalesso, F.; Crepaldi, C.; Ronco, C. (Vicenza)

Applications in Peritoneal Dialysis

103 Use of Sodium Hypochlorite in Peritoneal Dialysis:
   The Genesis of the ‘Y’ Set and Beyond
   Buoncristiani, U.; Buoncristiani, E.; Bianchi, P. (Perugia)

117 Exit-Site Care in Peritoneal Dialysis
   Wadhwa, N.K.; Reddy, G.H. (Stony Brook, N.Y.)

125 Successful Use of Sodium Hypochlorite Pack Plus Systemic and Local Antibiotic Therapy for the Treatment of Pseudomonas Infection of Peritoneal Dialysis Catheter Exit-Site
   Rodighiero, M.P.; Dell’Aquila, R.; Bonello, M.; Spanò, E.; Di Loreto, P.;
   Nalesso, F.; Ronco, C. (Vicenza)

129 Disinfection of Lines and Transfer Sets in Peritoneal Dialysis
   Lew, S.Q.; Gruia, A. (Washington, D.C.)

Various Applications in Dialysis

139 Amuchina 10% Solution, Safe Antiseptic for Preventing Infections of Exit-Site of Tenckhoff Catheters, in the Pediatric Population of a Dialysis Program
   Rodriguez-Leyva, F.; Sanchez-Barbosa, J.L. (Mexico, D.F.)

145 Risk of Peritonitis among Disadvantaged CAPD Patients in Mexico
   Garcia-Garcia, G.; Tachiquin-Bautista, N.; Luquin-Arellano, V.H.;
   Cueto-Manzano, A.M. (Guadalajara, Jal)

153 Author Index

154 Subject Index
Sodium hypochlorite has long been recognized for its effectiveness as an antiseptic and disinfectant. In his historic pioneering work, in which he proved in a convincing clinical trial the importance of hand disinfection, Semmelweis used sodium hypochlorite as a hand wash and disinfectant to reduce mortality from childbed fever [1]. In another historic discovery, Carrel and Dakin introduced 0.45–0.5% buffered sodium hypochlorite for the treatment of trauma wounds during the First World War [2, 3]. This solution, known as Dakin’s solution revolutionized the treatment of trauma wounds and was used during and after the war. The effectiveness of sodium hypochlorite solution as an antimicrobial is unquestioned; however, its practical use in medicine had been limited due to its reduced stability. However, the method of manufacture makes the medical use of sodium hypochlorite a viable option.

Electrolytically produced sodium hypochlorite solutions, e.g. ExSept (Amuchina), differ from other commercially produced sodium hypochlorites by their method of manufacture. The electrolytic process yields a sodium hypochlorite solution that is stable at a lower pH eliminating the need to add large quantities of stabilizers, as with other sodium hypochlorites, that are both detrimental to wound healing and reduce the antimicrobial activity of the solution. The result is a highly effective antimicrobial with very good biocompatibility.

The ExSept solutions discussed herein have also been reviewed by numerous health agencies as both medical devices and medical drugs. These review agencies include, but are not limited to, the Canadian Health Ministry, Mexican Health Ministry, Italian Ministry of Health, French Ministry of Health, Swiss Ministry of Health and the US Food and Drug Administration.
This book provides the clinician with a sound understanding of how electrolytically produced sodium hypochlorite solutions differ from commercial sodium hypochlorite solutions, and presents different uses of this solution as both an antiseptic and disinfectant and to alleviate some of the stereotypes associated with the medical use of sodium hypochlorite solutions. A work from an International Faculty, presenting many different experiences with ExSept/Amuchina solutions specifically in the arena of dialysis, is included in this book. The studies present both in vitro controlled laboratory evaluations and clinical in vivo, prospective, randomized trials.

The beneficial penetration of the use of electrolytically produced sodium hypochlorite solutions in dialysis has made excellent progress; however, further advances are expected as the efficacy and safety of the product becomes more widely understood.

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References