M. Inaba, Y. Inaba

Androgenetic Alopecia

Modern Concepts of
Pathogenesis and Treatment

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Masumi Inaba, M.D.
Inaba Clinic
Department of Aesthetic Plastic Surgery
3-31-13 Asagaya-minami,
Suginami-ku, Tokyo, 166 Japan

Yoshikata Inaba, M.D.
Department of Dermatology
The Jikei University School of Medicine
3-25-8 Nishi-shinbashi,
Minato-ku, Tokyo, 105 Japan

and

Department of Dermatology
Inaba Aesthetic Plastic Surgery
3-31-13 Asagaya-minami,
Suginami-ku, Tokyo, 166 Japan

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Foreword

Until now, the general belief has been that premature baldness (male pattern baldness: M.P.B., or androgenetic alopecia) is a hereditary condition that progresses with age and for which there is no cure. If the father is bald, it is assumed that the child may also be destined to be bald sometime in the future.

The existing theory throughout the world is that the central portion of the hair follicle is the hair root, and hair can never regrow if the hair root has been removed. Dr. Inaba has introduced a new theory that the central portion of the hair follicle is not only the hair root but the upper isthmal portion close to the duct opening of the sebaceous gland. This is a totally new understanding of the hair growth mechanism and the hair cycle. In his experience in the surgical removal of the sweat glands, which also removes the hair root, Dr. Inaba has found increasing evidence that hair regrows if the sebaceous gland is left intact.

The prevailing belief is that the male hormone acts directly on the hair root to cause male pattern baldness. However, Dr. Inaba has found that the male hormone is affected by an enzyme in the sebaceous gland which exercises a secondary effect on the hair root. An important factor in baldness is the size of the sebaceous gland; the relative size of the gland is influenced by diet and animal fats. Thus, baldness is not primarily a hereditary condition but rather a result of the combination of the hereditary strength of the hormone and individual dietary habits.

This new theory helped Dr. Inaba to develop a treatment for baldness based on the prevention of the enlargement of the sebaceous gland. The treatment includes appropriate diet, the use of a shampoo containing an enzyme-suppression agent, and trichogenous agents. We sincerely hope that this book will help many people to overcome or retard their premature baldness.

Robert M. Nakamura, M.D.
Chairman Emeritus
Department of Pathology
Scripps Clinic and Research Foundation
La Jolla, CA 92037, USA

Foreword

Studies in the physiology and pathology of hair, especially clinical research concerned with the growth of hair, have been minimal compared with studies carried out in other fields of medical science. Only a small number of scientists at a few research centers in the United States and Europe have done studies on the growth of hair.

Recently, however, alopecia has emerged as a concern of young people, mainly in Europe, the United States, and Japan, where a high standard of living is enjoyed. Consequently, there has been a sudden rush of studies of hair in the fields of dermatology, plastic surgery, and cosmetic surgery.

As a practitioner and as director of a small hair research center in Tokyo, Dr. Masumi Inaba, the principal author of this book, has carried out numerous studies of the physiology of hair. The regular observation of hair growth by means of a unique operative technique for relief from bromidrosis, which Dr. Inaba developed, well deserves acclaim as a landmark in the field.

Dr. Inaba has now published the result of his work on androgenetic alopecia, an endeavor that he has taken on as a lifetime study. I pay my deep respect to his arduous efforts resulting from reading a wide range of literature, profound observational practice, and knowledge derived from practical clinical work. I am reminded of the famous phrase, "Gradual approach to truth." I am convinced that Dr. Inaba's work published here will serve as an excellent basic reference text for medical practitioners and students in this field in the years to come.

Tai Ho Chung, M.D., Ph.D.
Director and Professor
Biomedical Research Laboratory
School of Medicine
Kyungpook National University
Taegu, Korea

Preface

The recent progress of medicine is, in a word, remarkable. However, the stubborn problems of cancer and pathological human hair loss still elude the search for a final cure. The research that establishes such cures, it could be said, would merit a Nobel Prize.

The complexities of cancer continue to baffle dedicated research teams, but we all look forward fervently to an eventual end to this fearful disease. On the other hand, little attention is paid to the phenomenon of human baldness. Its onset in middle age, or sometimes much earlier, seems to provoke a certain sense of idle resignation, much as if to say that it is just one of the unavoidable hazards of growing older. And, after all, it does no actual harm in other than a cosmetic sense. In some societies a bald head is even considered a symbol of wisdom or virility.

However we elect to perceive it, the phenomenon of androgenetic alopecia, in particular, has been treated rather lightly by much of the medical profession. Any explanation of its causation, spun out by any researcher regarded as an expert, has been thoughtlessly accepted even if it is later found to be quite false. Erroneous notions about the causes of baldness have perhaps been among the leading reasons why basic research and treatment procedures have been delayed for so long. It is only quite recently that serious attention has been brought to bear on the problem.

The authors have conducted basic research studies on the phenomenon of baldness and have developed new treatment techniques over the past 20 years. One conclusion is that the common explanation of the human hair cycle is, in some respects, inaccurate and misleading. This conclusion has been made on the basis of some 10,000 clinical cases and a growing body of histological studies. Much of the histological research work was done with original thick-tissue specimens which provided three-dimensional views of hair generation and regeneration.

As a result, the authors have formulated a new hypothesis to elucidate the phenomenon of human hair loss and regeneration. Research papers that led to this hypothesis have been published in a number of leading medical journals, both in Japan and in other countries. The key feature of the hypothesis is the major role played by the sebaceous gland in the complex process of hair loss and regeneration. Most recently, this hypothesis was presented in the authors' *Human Body Odor* published by Springer-Verlag.

The lifelong process of human hair generation and recession includes the phenomenon of baldness. Recent studies have indicated new treatment approaches to retard or prevent loss of hair which are quite different from those methods attempted in the past. Modern-day medical advances make it seem preposterous that men of less than 100 years of age should continue to lose their hair. It strikes the authors as strange indeed that the onset of baldness at 40 to 50 years of age is accepted by most men as regrettably inevitable. Some men, in fact, begin to grow bald as soon as their early 20s. This seems even more unnatural.

In light of anticipated future advances in medicine, this present book may be no more than a small first step toward the goal of a cure for baldness. It is, however, a step that is fully based on scientific studies, and we wish to commend the contents not only to men (and to some women) who fall victim to baldness but to anyone who has a serious interest in research within the field of dermatology.

Chapters 1–16 have been written with the basic research related to androgenetic alopecia very much in mind. Chapters 17–32 are intended to present in-depth research in the subject matter.

It is the authors' hope that the material presented herein will indeed inspire a renewed determination to conduct further research and development studies that will fully clarify the causative mechanism of male pattern baldness and other types of pathological hair loss and lead to permanent, fully effective remedies for prevention and cure.

Masumi Inaba, M.D.
Yoshikata Inaba, M.D.

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