EDITORIAL

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The Fifth International Workshop on the Evaluation and Management of Primary Hyperparathyroidism

Within the lifetimes of many of us, primary hyperparathyroidism (PHPT) has changed from a rare disorder of calcium metabolism to one of the most common. Along with an increase in its incidence over the past 50 years, the clinical expression of PHPT has changed from a symptomatic disorder to one that is often discovered incidentally.[1] This discovery of different phenotypic expressions of PHPT was heralded in the early 1970s by biochemical screening tests that included the serum calcium.[2] We now recognize three different clinical expressions of this disorder: symptomatic, asymptomatic, and normocalcemic PHPT. Asymptomatic patients, as defined by the incidental discovery of hypercalcemia, may or may not be shown upon further evaluation to involve the skeleton or the kidneys, the two classic target organs of the disease.[3-5] Skeletal and renal imaging, as well as other evaluative modalities, have permitted greater insights into how the disease affects these target organs and possibly other organ systems. The natural history of PHPT, with or without parathyroid surgery, has also been elucidated. These clinical descriptions of PHPT, which appear to have evolved over several decades, do not necessarily signal a change in the disease itself but rather in our recognition of the various ways in which it has always presented. Based upon the extent to which biochemical screening is used, the prevalence of vitamin D deficiency, and how patients are evaluated for hypercalcemia or low bone mass, different countries can demonstrate a different prevalence of these presentations.[6]

Over the past several decades, we have also witnessed advances in diagnostic approaches to PHPT. These advances have been accompanied by new knowledge in the genetics of the disease.[7,8] Therapeutically, we now have available means to image enlarged parathyroid glands with more specificity and sensitivity than ever before.[9] Advanced surgical approaches to the disease have followed. The therapeutics of PHPT have extended to new pharmacological approaches to deal either with hypercalcemia, reduced bone density, or both.

To translate new knowledge and insights into practical recommendations, international conferences have been held. The first Consensus Development Conference on the management of primary hyperparathyroidism in 1990[10] was followed by workshops in 2002,[11] 2009,[12] and 2013.[13] A subsequent regional effort with international consensus is also noteworthy.[14] Several years after the Fourth International Conference, we recognized important advances in epidemiology, pathophysiology, diagnosis, genetics, clinical presentations, involvement of target organs, nonclassical aspects, natural history, evaluation, and surgical and nonsurgical approaches. Planning for the Fifth International Workshop began. Over the past 2 years, 50 international experts have evaluated virtually every facet of this disease. Different from previous workshops, we utilized GRADE methodology to address several questions that were suited to this state-of-the-art approach to evidence-based systematic reviews. We are indebted to our colleague, Gordon Guyatt, who led this aspect of the project, as well as to Zhikang Ye, who led specific aspects of the systematic reviews. The methodology we employed is published separately in this series.[15] To be as comprehensive as possible, we also conducted narrative, evidence-based reviews.

We are also indebted to the co-chairs of the four task forces whose contributions and leadership are gratefully acknowledged: Task force 1: epidemiology, pathophysiology and genetics (Salvatore Minisola and Rajesh V Thakker); task force 2: classical and nonclassical features (Ghada El-Hajj Fuleihan and Claudio Marcocci); task force 3: surgical aspects (Nancy Perrier and Antonio Sitges-Serra); and task force 4: management (John P Bilezikian and Shonni J Silverberg). In this series, we present the culmination of the Workshop's effort in seven individual articles. The Summary Statement and Guidelines for the Evaluation and Management of Primary Hyperparathyroidism is a distillation of this monumental effort.[16] The evidence-based data to support the conclusions of the Summary Statement and Guidelines article are published in four separate task force reports[17-20] and one systematic review.[21] The summary statement combines the individual recommendations for future research of all task forces.

In addition to the tireless efforts of our task force co-chairs, we acknowledge the individual members of the task forces who worked diligently and cooperatively with us over the past 2 years: Andrew Arnold, Zhanna Balaya, Neil Gittoes, Lorenz Hofbauer, Karl Insogna, Tatiana Karonova, Andre Lacroix, Uri A Liberman, Andrea Palermo, Rene Rizzoli, Robert Wermers, Fadil M Hannan, Jessica Pepe, Cristiana Cipriani, Richard Eastell, Jian-min Liu, Ambrish Mithal, Carolina A Moreira, Munro Peacock, Lars Rejnmark, Barbara Silva, Marcella Walker, Marlene Chakhtoura, Marian Schini, Ola El Zein, Martin Almquist, Leonardo CB Farias, Quan-Yang Duh, Brian H Lang, Virginia LiVolsi, Mark Swayk, Menno R Vriens, Thinh Vu, Michael W Yeh, Randy Yeh, Omar Shariq, Leyre L Poch, Francisco Bandeira, Filomena Cetani, Manju Chandran, Natalie E Cusano, Peter R Ebeling, Jessica Gosnell, E Michael Lewiecki, Frederick R Singer, Morten Frost, Anna Maria Formenti. We also acknowledge Iman M'Hiri

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Simultaneous with this initiative in primary hyperparathyroidism, we also led a similar initiative to review and develop new guidelines for the evaluation and management of hypoparathyroidism. The reports on hypoparathyroidism are published in a contiguous issue of *JBMR*.[22-28] In the commentary introducing those reports, we gratefully acknowledge those who were involved in that major effort.[29]

Ever mindful of this international effort, we have reached out to many organizations, societies, and patient advocacy groups. We requested their review and incorporated their valuable suggestions. We also asked for their endorsement of these guidelines. To date, more than 65 regional and international organizations from more than 35 countries have endorsed the guidelines for the evaluation and management of PHPT.[16] Along with our accompanying guidelines for hypoparathyroidism,[22] this represents, to our knowledge, the largest international endorsement for any set of guidelines for the parathyroid diseases.

Throughout this experience, we have been aware of the need for our evidence-based conclusions to be useful to the physicians who care for patients with PHPT. We hope that we have succeeded with this goal in mind as well as presenting to you the most complete, evidence-based review that has ever been conducted for this disease.

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