I am pleased and greatly honored to serve as Guest Editor to this issue of the Lebanese Medical Journal on “Pediatric Hypertension”. The Journal has served the medical community for over half a century and, thanks to its leadership, continues to be a reputable medical journal with international recognition.

I would like to dedicate this issue of the LMJ to Edmond Shwayri, M.D., exceptional teacher and pioneer of nephrology in Lebanon, and Adel Berbari, M.D., physician, scientist, and teacher. Doctors Shwayri and Berbari have inspired so many of us, and have made valuable contributions to research, teaching and clinical practice of nephrology and hypertension.

Pediatric hypertension was historically assumed to be secondary to renal, cardiovascular or endocrine causes. Over the last two decades, there has been increased awareness that hypertension in children may be a part of the spectrum of essential hypertension, mainly linked to the obesity epidemic [1-2]. Essential hypertension, which continues to be a diagnosis of exclusion, accounts for over 85% of hypertension between the ages of 12 and 18.

Lack of standardization in blood pressure measurement precludes the ability to reliably estimate the prevalence of hypertension in children, although worldwide prevalence estimates range from < 1% to 5.1% [3]. Advances in our ability to care for premature and ill term infants have led to an increased awareness of neonatal hypertension. Hypertension occurs in 2.6% of children with normal BMI versus 10.7% among obese children (BMI ≥ 95th percentile), emphasizing the important role of obesity and the metabolic syndrome in the pathogenesis of pediatric hypertension [4]. Additionally, there is evidence that children with hypertension become hypertensive adults, and they develop markers of target organ injury including left ventricular hypertrophy, retinal changes, impaired cognitive function and increased carotid intima-media thickness (cIMT), a marker of atherosclerosis. Even children with prehypertension were recently shown to develop left ventricular hypertrophy [5]. Pediatricians, therefore, can play a pivotal role in the early diagnosis and treatment of hypertension to reduce long-term cardiovascular morbidity and mortality. Referral to a specialist depends on the level of comfort of the primary care physician and the degree of the etiological complexity.

This issue of the Lebanese Medical Journal addresses all aspects of clinical pediatric hypertension, as well as recent advances in its pathogenesis, genetics and research. It stresses the role of the pediatrician and primary care physician in the management of hypertension in children. Blood pressure should be accurately measured in all children three years or older, in children with co-morbid conditions such as premature birth, heart and kidney disease, obesity, history of umbilical line or urinary tract infections [6]. Blood pressure measurements should be confirmed by many determinations, and, if needed, by ambulatory blood pressure monitoring. Once the diagnosis of hypertension is confirmed, a diagnostic work up is conducted to exclude secondary causes of hypertension, and an effective rational treatment targeting the underlying etiology is initiated.

The goal of therapy is to normalize the blood pressure using a safe and efficacious drug regimen and assuring compliance. Physicians should be familiar with the different medications in each major class of antihypertensive agents, and with the effective combinations of these medications. Dietary intervention (salt restriction and adequate intake of potassium and calcium), weight reduction, exercise, stress reduction and cessation of smoking in adolescents should complement pharmacotherapy to achieve optimum control of hypertension.
Our understanding of hypertension has advanced rapidly with the use of new tools. Molecular probes have permitted the identification of Mendelian forms or single gene syndromes of hypertension. Genes have been localized to at least 20 chromosome regions [7]. Evolving pharmacogenetic studies that focus on determining how genetic variation affects drug response may be utilized in the future to guide clinicians to use marker-specific therapy for hypertension [8].

Pediatric hypertension should be considered a disease that has its origin in utero and persists into adulthood, affecting the cardiovascular and general health of the individual. I hope the reviews in this issue of the LMJ, presented by renowned authorities from the United States and Lebanon, will contribute to the understanding of the pathophysiology, diagnosis and treatment of pediatric hypertension. The prevention of obesity and the timely treatment of hypertension in children are of paramount importance in the prevention of morbidity and mortality from cardiovascular disease in adult life.

I would like to thank the authors for their valuable and authoritative contributions to this issue. Also, I would like to thank Dr. Ramy Ghabril for translating the abstracts into French. My special thanks to the Editorial Board of the Lebanese Medical Journal and its Editor-in-Chief, Dr. Adel Berbari, for giving us the opportunity to emphasize the importance of pediatric hypertension and its impact on the future of individual patients and of the health care system as a whole.

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