Introductory preface for special series: investigative algorithms in laboratory medicine—electrolytes and acid/base

Investigative algorithms are the most commonly referred to when we look back at the copious notes made and guides used during our medical studies (1,2). However familiar we become with low sodium or magnesium it can become quite complex in multi-morbid patients, and rarer abnormalities may still elude even the most experienced clinicians. A simple algorithm can cut through this complexity and clarify the thought processes to prevent unnecessary investigations, delay, and low yield activities. There are many diagnostic algorithms in print and they are often presented from the clinical point of view, therefore containing information on treatment. The algorithms presented in these series of articles will concentrate on the laboratory aspect of investigating patients, with a critical review of the laboratory issues.

The aim of this special series is to produce investigative algorithms that synthesise up-to-date and critically reviewed evidence to produce simple schema that can be used by any member of the multi-disciplinary team to approach abnormalities of electrolytes or acid/base status with confidence. Some rarer causes will also be mentioned in the hope that almost all patients can be diagnosed even if the clinician does not have access to genetic testing for rare congenital disorders.

The articles are not designed to replace the many excellent reviews on electrolyte and acid-base homeostasis nor comprehensive clinical guidelines. We hope we have synthesised the pertinent information to allow any clinician or laboratorian to have a systematic approach to the diagnosis of the abnormality described.

Footnote

Provenance and Peer Review: This article was commissioned by editorial office, *Journal of Laboratory and Precision Medicine* for the series "Investigative Algorithms in Laboratory Medicine—Electrolytes and Acid/Base". The article did not undergo external peer review.

Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at https://jlpm.amegroups. com/article/view/10.21037/jlpm-22-5/coif). The series "Investigative Algorithms in Laboratory Medicine—Electrolytes and Acid/Base" was commissioned by the editorial office without any funding or sponsorship. KES served as the unpaid Guest Editor of the series. ARS serves as Editor-in-Chief of *Journal of Clinical and Experimental Dermatology*. The authors have no other conflicts of interest to declare.

Ethical statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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