.
HYPONATREMIA: PROPOSED NEW CLASSIFICATION

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INTRODUCTION & Goals

1. Hyponatremia is a common disorder associated with serious outcomes (1, 2, 4, 5).
2. Often the junior Physicians are at the front end of management of this condition who needs an established approach to avoid confusion without compromise in the care of patient.
3. Coming Across the Practical difficulties we faced in real clinical situation, We Intended to re-examine the approach and improve the management of Hyponatremia

Methods

1. Review of Guideline articles and other Articles on Hyponatremia
2. Critical analysis by discussion among the group members to identify the limitations in the prevalent practice and scope of improvement.
3. Modification suggested in classification and practice.
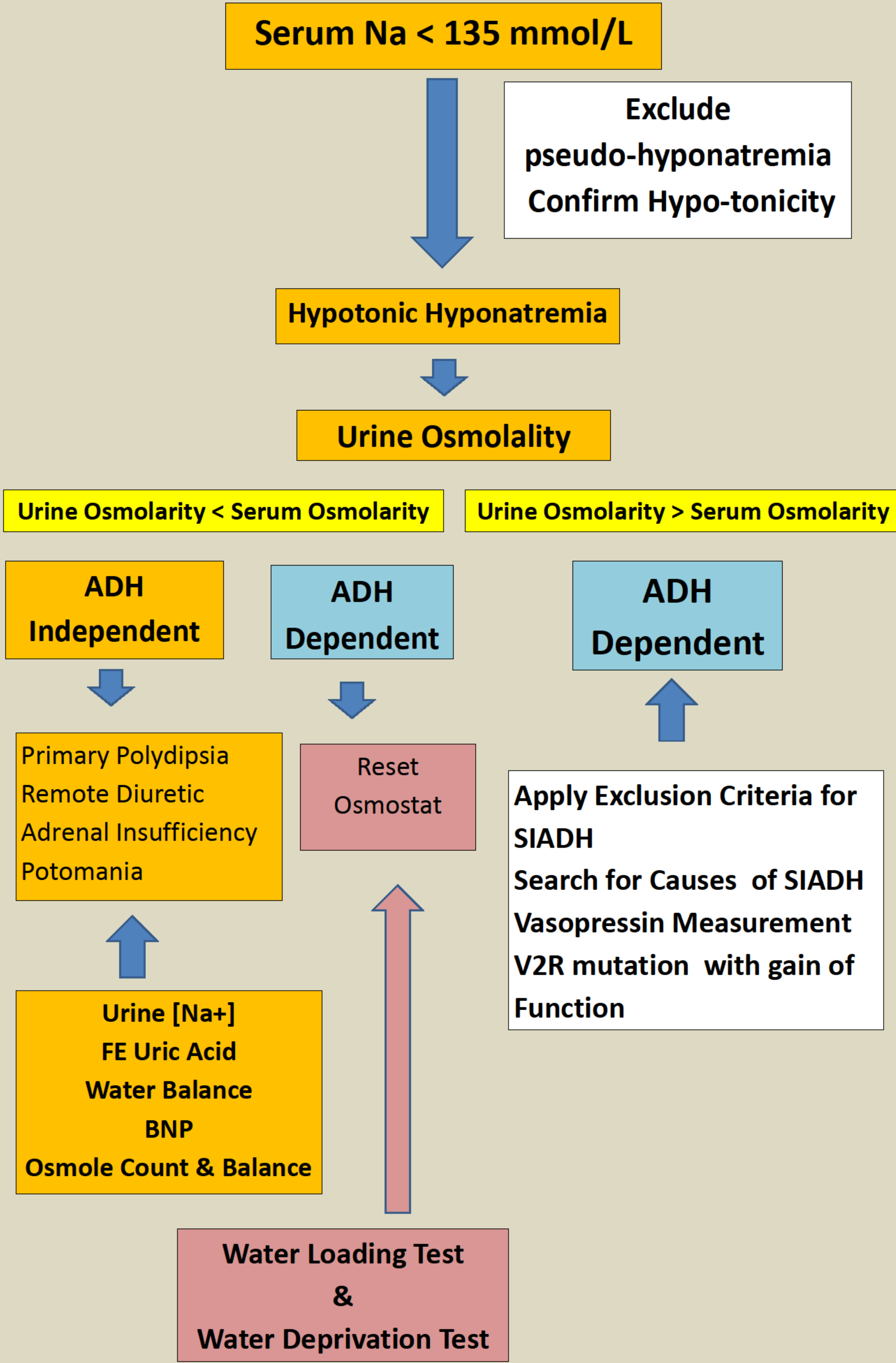
FINDINGS AND DISCUSSION

Several Diagnostic Algorithm developed by several experts and Guideline groups have similarity in the approach (3, 4, 5) which has following pitfalls (5, 6, 7):

a) It has tendency to over diagnose SIADH because it considers that urine osmolarity more than 100 mOsmole/L would be due to activity of ADH
b) It neglects the consideration that urine osmolarity more than 100 mOsmole/L but less than serum Osmolarity may be due to cause independent of activity of ADH.
c) Fenske eta al (6) found that with the existing Diagnostic Algorithm the diagnosis of Primary Polydipsia was misdiagnosed as SIADH among five out of five patients. In their study, it was also noted that a correct diagnosis could have been reached if ADH Independent mechanism was considered for urine Osmolality < 200 mOsmole/L.
d) There is no place of Water balance in the existent prevalent approach.
e) A diagnosis of "OSMOSTAT RESET" at a point lesser than 280 mOsmole/L of Plasma is lost.
f) SIADH is "Diagnosis of Exclusion" which is not employed always.
g) Urinary [Na+] fails to indicate volume status of the patient while a concomitant fractional excretion of urate improves diagnostic yield.

A modified approach for validation is appropriate since it has been found that Algorithmic approach increases diagnostic yield than the seniority or experience of Physician. (6).

HYPONATREMIA MODIFIED CLASSIFICATION & APPROACH

Serum Na < 135 mmol/L

Exclude pseudo-hyponatremia Confirm Hypo-tonicity

Hypotonic Hyponatremia

Urine Osmolality

| Urine Osmolarity < Serum Osmolarity | Urine Osmolarity > Serum Osmolarity |

ADH Independent

ADH Dependent

ADH Dependent

Primary Polydipsia
Remote Diuretic
Adrenal Insufficiency
Potomania

Reset Osmostat

Apply Exclusion Criteria for SIADH
Search for Causes of SIADH
Vasopressin Measurement
V2R mutation with gain of Function

Urine [Na+]
FE Uric Acid
Water Balance
BNP
Osmole Count & Balance

Water Loading Test
&
Water Deprivation Test

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