INTRODUCTION

Hyponatraemia (HN) is the most common electrolyte disorder of hospitalised patients; the pathological state of inappropriate secretion of antidiuretic hormone (SIADH) is a frequent cause of hyponatraemia.1

HN poses considerable risks to patient safety and outcomes. In a hospital setting, hyponatraemia is associated with significantly higher mortality risk following admission.1,2

The HN Registry is the first large-scale, international effort designed to observe, currently utilised management modalities for HN due to SIADH, heart failure, and cirrhosis, and to characterise their relative efficacy and impact on hospital resource utilisation.

STUDY DESIGN

The HN Registry is a multicentre, prospective, observational study designed to collect data in patients with hyponatraemia (HN) and hyponatraemic heart failure, cirrhosis, or chronic kidney disease. A key endpoint is length of hospital stay.

Patient enrolment requirements:

• Anticipated enrolment is approximately 3,500 patients from community, tertiary and academic medical centers in the USA and Europe, from September 2008 through September 2012.

Inclusion criteria:

• Hospitalised adults ≥ 18 years old with serum \([\text{Na}^+]\) ≤ 130 mmol/L for ≥ 24h

Exclusion criteria:

• Hyponatraemic HN
• Renal replacement therapy
• SIADH
• Hypothyroidism
• Hypovolaemia (hypotension, dehydration, etc.)
• Congestive heart failure, and nephrotic syndrome, US only; HN, defined as serum sodium concentration \([\text{Na}^+]\) ≤ 120 mmol/L.

Objectives:

• For hospitalised patients with euovolaemic and hypovolaemic SIADH, the HN Registry is designed to characterise their relative efficacy and impact on hospital resource utilisation.

Primary Endpoints:

• Mean change in serum \([\text{Na}^+]\) per day from beginning to end of a treatment episode or discharge.

Secondary Endpoints:

• Treatment efficacy (correction of HN and time to achieve correction, measured as one of the following:

  - Serum \([\text{Na}^+]\) ≥ 130 mmol/L
  - Serum \([\text{Na}^+]\) ≥ 130 mmol/L + increase of serum \([\text{Na}^+]\) ≥ 5 mmol/L

  - Treatment efficacy in improving outcomes

• Frequency and timing of HN management therapies

• Length of stay in hospitalised patients

• Impact of HN on length of hospital stay

RESULTS

As of May 2012, 2,962 patients have been enrolled in the HN Registry from 237 sites in the USA and Europe. Of the enrolled patients, 1,838 patients have sufficient data for preliminary analysis.

The HN Registry: Baseline patient characteristics (n = 1,838)

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<th>Characteristic</th>
<th>Frequency</th>
<th>Mean ± SD</th>
</tr>
</thead>
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<td>49%</td>
<td>79.3 ± 8.1</td>
</tr>
<tr>
<td>Male</td>
<td>47%</td>
<td>79.2 ± 8.2</td>
</tr>
<tr>
<td>Hypertension</td>
<td>30%</td>
<td>79.1 ± 8.2</td>
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CONCLUSIONS

• Substantial numbers of HN patients do not receive any therapy for HN

• These preliminary data show that patients often discharged with persistent HN

• Hypernatraemic saline had the greatest mean rate of change in sodium in each day of treatment, but also had the highest percentage of over-corrections; of all procedures, fluid restriction had the lowest mean rate of change in sodium per day of treatment.

• Preliminary analyses showed a trend for a shorter median length of stay (LOS) from the first day of initiation of specific therapy, but the benefit was not statistically significant.

• With additional patient enrolment and analysis, the HN Registry data will provide further insight into the management of HN, and outcomes and resource utilisation for hospitalised patients with HN.