The Use of Intermittent 7.5mg Tolvaptan on an Out-patient Basis for SIADH: a Retrospective Audit from a Tertiary Cancer Hospital

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Introduction

- Tolvaptan is a Vasopressin-2 receptor antagonist licensed for the treatment of hyponatraemia secondary to SIADH.
- The initial recommended dose is 15mg once daily.
- Data in oncology patients with SIADH suggest 7.5mg can safely and effectively increase sodium levels where 15 mg can on occasion lead to too rapid a correction1,2.
- Recommendations suggest a repeat sodium taken at 4-6 hours, with repeat sodium measurements and fluid status assessment every 6 hours until the dose is stable3.
- At our institution we routinely commence on a dose of 7.5mg initially, with dose escalation if necessary.
- We have a small cohort of hyponatraemic patients who attend the endocrine day unit regularly for monitoring of serum sodium levels and given prescriptions if the sodium is on a downward trend and/or symptoms of hyponatraemia have developed.

Aim/Methods

We set out to assess the safety and efficacy of intermittent out-patient dosing with 7.5mg tolvaptan. Pharmacy records and case notes were interrogated to find all patients given out-patient prescriptions for tolvaptan between April 2012-January 2015.

Results

- A total of 15 doses were administered to four patients, all with an underlying diagnosis of small cell lung cancer.
- Mean age 63 years, 3 males, all euvoaemic and biochemically confirmed SIADH, all given tolvaptan previously as an outpatient.
- On 8 occasions the repeat sodium was checked at 6 hours (range 6 hours-6 days).
- No adverse events were encountered.
- One patient died due to progressive malignancy.

Overall (n=15)

<table>
<thead>
<tr>
<th></th>
<th>Mean Pre-treatment Na</th>
<th>Mean Post-treatment Na (1st measured)</th>
<th>Mean Increase</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>126 mmol/l</td>
<td>133.6 mmol/l</td>
<td>7.6 mmol/l</td>
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</tbody>
</table>

When Na checked at 6 hours (n=8)

<table>
<thead>
<tr>
<th></th>
<th>Mean Pre-treatment Na</th>
<th>Mean Post-treatment Na (at 6 hours)</th>
<th>Largest rise</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>125.75 mmol/l</td>
<td>132 mmol/l</td>
<td>10 mmol/l</td>
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</table>

Conclusions

- Outpatient use of single 7.5mg doses of tolvaptan is effective at raising serum sodium in oncology patients with SIADH.
- Patient responses to the same dose can vary considerably.
- There are potential economic and patient benefits in using this regime as an outpatient basis, especially in oncology patients.
- There were no adverse effects encountered in the small patient cohort analysed, but robust protocols are required.
- Improvements need to be made in checking a 6-hour sodium.

References

2. Low dose tolvaptan (7.5 mg) is effective in the management of SIADH in oncology patients (results from a retrospective audit at The Christie Hospital and Wythenshawe Pulmonary Oncology Unit). King J et al. Presented at BES 2014. Endocrine Abstracts (2014) 34 P89.

A graph showing individual patients’ responses to 7.5mg tolvaptan when the sodium was checked at 6 hours.