Total Dose Wrongly Entered as Flow Rate in Infusion Pump, etc.

Three cases have been reported involving the administration of an overdose of a drug due to the total dose having been entered as the flow rate when setting the flow rate on infusion pumps (infusion pumps and syringe pumps) (information collection period: from January 1, 2009 to December 31, 2012; the information is partly included in “Individual Theme Review” (p.84) in the 7th Quarterly Report).

<table>
<thead>
<tr>
<th>Drug Used</th>
<th>Flow Rate Ordered</th>
<th>Total Dose</th>
<th>Flow Rate Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenteral nutrition</td>
<td>30mL/h</td>
<td>900mL</td>
<td>900mL/h</td>
</tr>
<tr>
<td>Novo-Heparin for Injection 7.5mL + normal saline 250mL</td>
<td>11mL/h</td>
<td>257mL</td>
<td>257mL/h</td>
</tr>
<tr>
<td>Dormicum Injection 10mg 10A + normal saline 30mL</td>
<td>3mL/h</td>
<td>50mL</td>
<td>50mL/h</td>
</tr>
</tbody>
</table>
Total Dose Wrongly Entered as Flow Rate in Infusion Pump, etc.

Case

When replenishing the patient’s parenteral nutrition, the total dose was entered instead of the flow rate. The infusion pump used (Terufusion Infusion Pump TE-171 (purchased in 1999)) was a model that does not bear the Medical Safety Compliance Mark for Medical Devices, and the design was such that the same switch was used to toggle between functions when setting both the flow rate and the total dose. An hour later, the patient’s respiratory condition deteriorated and it was discovered that the whole dose of parenteral nutrition had already been administered. When checked, the flow rate on the infusion pump was discovered to have been set at 900mL/h instead of 30mL/h. The patient suffered convulsive seizures and respiratory arrest, and his/her blood glucose level was 976mg/dL.

Preventive measures taken at the medical institutions in which the events occurred.

- Checks after setting the flow rate and total dose on infusion pumps will be thoroughly enforced.
- Staff will be provided with an adequate understanding of the differences between different models of infusion pump used within the medical institution.

Complementary comment by the Comprehensive Evaluation Panel

- Please note that the infusion pumps, etc. currently used in clinical practice include some that do not bear the Medical Safety Compliance Mark for Medical Devices.
- Please ensure that staff are educated about the infusion pumps used within the medical institution.

* As part of the Project to Collect Medical Near-Miss/Adverse Event Information (a Ministry of Health, Labour and Welfare grant project), this medical safety information was prepared based on the cases collected in the Project as well as on opinions of the “Comprehensive Evaluation Panel” to prevent the occurrence and recurrence of medical adverse events. See quarterly reports and annual reports posted on the Japan Council for Quality Health Care website for details of the Project.

http://www.med-safe.jp/

* Accuracy of information was ensured at the time of preparation but cannot be guaranteed in the future.
* This information is intended neither to limit the discretion of healthcare providers nor to impose certain obligations or responsibilities on them.