Welcome to the STABILIS users for this fifth Newsletter!

Summary

1-News from the EAHP Congress in Barcelona
2-New monographs
3-New references from international publications
4-New summary list: incompatibility with sodium bicarbonate
5-New references from industry
6-New pictograms in Stabilis
7-New documents on Infostab website
8-Links with other databases
9-Stabilis: a new design and new functions
10-Statistics

1-News from the EAHP Congress in Barcelona

The 14\textsuperscript{th} Congress of the European Association of Hospital Pharmacists took place in Barcelona, Spain from 25\textsuperscript{th} to 27\textsuperscript{th} March.

225 posters were presented with 7 posters dealing with the stability of drugs.

3 posters from Jean Daniel Hecq 	extit{et al.} from the University Hospital of Mont Godinne in Belgium, the most important team currently publishing stability studies in Europe.

1- Hecq J.D 	extit{et al.}

\textit{Long-term stability of a tramadol hydrochloride and alizapride hydrochloride mixture stored in dextrose 5\% polyolefin bags at 5\pm 3\textdegree C}.

Clinique Universitaire de Mont Godinne, Yvoir – BELGIUM.
The stability has been established for a period of 30 days at 5 \pm 3\textdegree C allowing advanced preparation.

2-Hecq J.D 	extit{et al.}

\textit{Long-term stability of a tramadol hydrochloride and droperidol mixture stored in dextrose 5\% polyolefin bags at 5\pm 3\textdegree C}.

Clinique Universitaire de Mont Godinne, Yvoir – BELGIUM.
The stability has been established for a period of 30 days at 5 \pm 3\textdegree C allowing advanced preparation.

3-Hecq J.D 	extit{et al.}

\textit{Effect of freezing, microwave thawing, and long-term storage on the stability of calcium levofolinate in 5\% dextrose infusion poloulefin bags}.

Clinique Universitaire de Mont Godinne, Yvoir – BELGIUM.
The solutions were stored in the freezer for 95 days and then for one month at 5 \pm 3\textdegree C. The solutions remain stable after this period allowing the preparation in advance by CIVAS.

The authors obtained the third Prize Poster Award for this last stability study!
Another poster presented the stability of a non-injectable drug:

Fehr et al.
**Stability of methacholine solutions for bronchoprovocation.**
Kantonspital Garubünden, Chur - SWITZERLAND
The authors demonstrated that methacholine solutions were chemically stable for 18 months stored at 2-8°C.

### 2-New monographs

**Moxifloxacin (Avelox®, Izilox®)**

Moxifloxacin is a new fluoroquinolone with broad-spectrum activity. It is suitable for treating peritonitis in peritoneal dialysis patients.

Fernandez-Varon and coll studied the stability of moxifloxacin 25 mg/l in peritoneal dialysis bags Dianeal PD1 1.36% and 3.86% at 4°C, 25°C and 37°C. J Clin Pharm Ther 2006 ; 31: 641-643.

**Sugammadex (Bridion®)**

Sugammadex is a novel agent for reversal of neuromuscular blockade by the agent rocuronium in general anaesthesia. It is the first selective relaxant binding agent (SRBA).

The stability data of Sugammadex provided by Organon have been included.
The solution at 10 mg/ml in 0.9% sodium chloride is stable for 48 hours at 2-8°C or 20-25°C. 
Ref: Sugammadex prescribing information 2009 Organon.

3-New references from international publications

**Bupivacaine**
When stored in the refrigerator, syringes filled with bupivacaine hydrochloride 0.125% and sufentanil citrate 0.5µg/ml can be kept for at least 28 days.

**Clonidine**
Formulation of clonidine 2 mg/ml in 0.9% sodium chloride is stable at 40°C for at least 6 months without protection from light.
EJHP Science 2009 ; 15, 1: 3-5.

**Doripenem**
Doripenem 5 mg/ml in PVC or PE bags was stable for up to 12 hours in 0.9% sodium chloride at room temperature and 72h in refrigeration. The 5% dextrose solution retained potency for 4 hours in room condition and 48 hours in refrigeration.

**Ephedrine**
Ready-to-use syringes of ephedrine hydrochloride 20 mg/2 ml in 0.6% sodium chloride were found to be stable at 25° and 40°C for at least 12 months with no significant loss of potency.

**Fluorouracil**
5FU and sodium folinate concentrations when mixed together in the same ambulatory infusion system remained stable when used for at least 2 weeks at 32°C.

Hospital Pharmacy Europe 2009 ; 42 : 30-31.

**Ketamine and propofol**
Mixtures of ketamine and propofol at 50:50 and 30:70 ratios were physically compatible and chemically stable for up to 3h when stored in capped polypropylene syringes at room temperature with exposure of light.
Can J Hosp Pharm 2008 ; 61, 6: 426-430.

**Palonosetron**
Palonosetron HCl is physically and chemically stable when mixed with propfol 1% injection during simulated Y site administration

**Sodium folinate**
Sodium folinate in 5% dextrose in polyolefin bags may be frozen for 3 months and microwave thawed without major changes that affect concentration.
Subsequent storage of the bags at 4°C is possible for at least 30 days.

Many publications studying the stability of drugs in peritoneal dialysis fluids were included:
- Stability of 0.025 mg/ml ofloxacin solutions in Dianeal PD1 4.5 and 1.5 G5% (Perit Dial Int 1995; 15: 72-74).
- Stability of 0.333 mg/ml cefazoline solutions in Dianeal PD2 1.5 G5% (Am J Health Syst Pharm 2002 ; 59: 1537-8).
- Stability of Insulin in Dianeal and Physioneal (Perit Dial Int 2006 ; 26, 4: 498-502.)
4-New summary list: incompatibility with sodium bicarbonate

In the screen “Summary list”, click on “Incompatibility” and on the pictogram of sodium bicarbonate to obtain the list of drugs incompatible with NaHCO3.

Figure 2: Access to the list “Incompatibility with sodium bicarbonate

5-New references from industry

Mundipharma

The stability data of oxycodone provided by Mundipharma have been included. The 1 mg/ml solution in 0.9% sodium chloride or 5% dextrose are stable for 7 days at 37°C or 25°C in PVC or PE or EVA or PP bags. The 10 or 50 mg/ml are stable 7 days at 37°C or 25°C in PVC or PE or EVA.

Ref: Oxycodone prescribing information 2009 Mundipharma.

7-New documents on Infostab website

(www.infostab.com)
See in « Publications » and « Stability and compatibilities »


8-Links with other databases

Stabilis is now linked with the software “CHIMIO” from the COMPUTER ENGINEERING Society, the main software used in France for the preparation of cytotoxic drugs in CIVAS.

When the user of “CHIMIO” consults a monograph, he can directly open the same monograph in Stabilis by clicking on the Stabilis button. See in figure 4.
Within a THESORIMED monograph, by clicking on this link, you access directly to the corresponding monograph in Stabilis database.

9-Stabilis: a new design and new functions

A **new design** with new buttons has been available since May 1st!

Figure 4: The new Stabilis screen

A **user’s guide** is now available in English and French. Other languages will be available in the future. 10 pdf files describe the essential functions of the Stabilis database and can be downloaded by the users.

1-How to use a monograph?
2-How to obtain the list of drugs incompatible with various solvents?
3-How to obtain the list of drugs which are stable in one type of container (e.g.: ethylenevinylacetate)?
4-How to obtain the list of drugs which provokes the leaching of plasticizers. (or other factors affecting stability)?
5-How to obtain the list of drugs administered by intramuscular route? (or any other route of administration)
6-How to use the search function for incompatibilities?
8-How to use the search function?
9-How to use the references?
10-What about STABILIS?

The **Newsletters** can be downloaded (except the last newsletter).

Documents can be downloaded from the bibliography (see figure 6).
Figure 5: possibility to download documents by clicking on the pdf button

10-Statistics

Unlike Wall Street stock exchange, frequentation of Stabilis website continues to increase over months! Up to 3,200 visitors have used Stabilis in May.

Figure 6: Statistics by month (by 1st June 2009)
Cytotoxic still represent the majority of 20 most visited monographs (90%).

<table>
<thead>
<tr>
<th>Drug</th>
<th>Nb</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bevacizumab</td>
<td>1393</td>
<td>6.2 %</td>
</tr>
<tr>
<td>Cetuximab</td>
<td>759</td>
<td>3.4 %</td>
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<tr>
<td>Fluorouracil</td>
<td>700</td>
<td>3.1 %</td>
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<tr>
<td>Cisplatin</td>
<td>633</td>
<td>2.8 %</td>
</tr>
<tr>
<td>Oxaliplatin</td>
<td>627</td>
<td>2.8 %</td>
</tr>
<tr>
<td>Docetaxel</td>
<td>615</td>
<td>2.7 %</td>
</tr>
<tr>
<td>Carboplatin</td>
<td>574</td>
<td>2.6 %</td>
</tr>
<tr>
<td>Cyclophosphamide</td>
<td>573</td>
<td>2.6 %</td>
</tr>
<tr>
<td>Irinotecan</td>
<td>548</td>
<td>2.5 %</td>
</tr>
<tr>
<td>Etoposide</td>
<td>545</td>
<td>2.4 %</td>
</tr>
<tr>
<td>Gemcitabine</td>
<td>534</td>
<td>2.4 %</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>507</td>
<td>2.3 %</td>
</tr>
<tr>
<td>Azacitidine</td>
<td>504</td>
<td>2.3 %</td>
</tr>
<tr>
<td>Doxorubicin</td>
<td>491</td>
<td>2.2 %</td>
</tr>
<tr>
<td>Paclitaxel</td>
<td>482</td>
<td>2.2 %</td>
</tr>
<tr>
<td>Cytarabine</td>
<td>460</td>
<td>2.1 %</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>449</td>
<td>2.0 %</td>
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<tr>
<td>Furosemide</td>
<td>445</td>
<td>2.0 %</td>
</tr>
<tr>
<td>Bortezomib</td>
<td>443</td>
<td>2.0 %</td>
</tr>
<tr>
<td>Temsirolimus</td>
<td>443</td>
<td>2.0 %</td>
</tr>
</tbody>
</table>

Fig 7: Statistics for the first 20 molecules

Language statistics have not changed that much since last Stabilis newsletter, with still a majority of French-speaking visitors. However it came to our attention that a significant part accounts for our Canadian colleagues: welcome on Stabilis!

<table>
<thead>
<tr>
<th>Language</th>
<th>Nb</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>French</td>
<td>26198</td>
<td>72.0 %</td>
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<tr>
<td>Dutch</td>
<td>1783</td>
<td>4.9 %</td>
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<tr>
<td>English</td>
<td>1655</td>
<td>4.6 %</td>
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<tr>
<td>German</td>
<td>1603</td>
<td>4.4 %</td>
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<tr>
<td>Spanish</td>
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<td>2.6 %</td>
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<tr>
<td>Italian</td>
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<tr>
<td>Swedish</td>
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<td>1.0 %</td>
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<tr>
<td>Portuguese</td>
<td>295</td>
<td>0.8 %</td>
</tr>
<tr>
<td>Danish</td>
<td>271</td>
<td>0.7 %</td>
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<tr>
<td>Greek</td>
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<td>0.7 %</td>
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<tr>
<td>Finnish</td>
<td>243</td>
<td>0.7 %</td>
</tr>
<tr>
<td>Turkish</td>
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<td>0.6 %</td>
</tr>
<tr>
<td>Slovenien</td>
<td>226</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Norwegian</td>
<td>216</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Polish</td>
<td>214</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Czech</td>
<td>209</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Rumanian</td>
<td>172</td>
<td>0.5 %</td>
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<tr>
<td>Lithuanian</td>
<td>141</td>
<td>0.4 %</td>
</tr>
<tr>
<td>Croatian</td>
<td>136</td>
<td>0.4 %</td>
</tr>
<tr>
<td>Estonian</td>
<td>134</td>
<td>0.4 %</td>
</tr>
<tr>
<td>Russian</td>
<td>129</td>
<td>0.4 %</td>
</tr>
<tr>
<td>Hungarian</td>
<td>118</td>
<td>0.3 %</td>
</tr>
<tr>
<td>Slovak</td>
<td>106</td>
<td>0.3 %</td>
</tr>
<tr>
<td>Latvian</td>
<td>88</td>
<td>0.2 %</td>
</tr>
</tbody>
</table>

Figure 8: Statistics by language since February 2008