

NOTICE FROM THE SUPERIOR COUNCIL OF HYGIENE PERTAINING TO
NEONATAL INFECTIONS BY ENTEROBACTER SAKAZAKII.

SCH : 7.718

Re: Request for notice of 11.04.2002, ref. ADM1602 by M. Van Havere –
Enterobacter sakazakii in infant formula in maternity wards and hospitals.

During the session on 29 May 2002, the minutes of which – on this point - were approved in session, the Superior Council of Hygiene (section IV1-IV2) released the following notice regarding neonatal Enterobacter sakazakii infections:

The Superior Council for Hygiene (SCH), under section IV1-IV2, has studied the following documents which were released by the group of experts created with this aim during the 24.04.2002 session, which met on 21st May 2002:

- Document summarising the published data on the pathogenicity of Enterobacter sakazakii infections and their relation to infant feeding;
- The report of the group of experts regarding neonatal Enterobacter sakazakii infections

The SCH insists on the following points:

1. Milk powders necessary for the preparation of infant foods for premature and term babies are not sterile. The current guidelines imposed by the legislation cannot rule out the risks of contamination by potentially pathogenic bacteria.
2. The problem of contamination of powdered milk is not limited to Enterobacter sakazakii or to newborn babies. It has been proved that infections can occur through consumption of preparations contaminated by other germs such as Enterobacteria, Klebsiella, Citrobacter... Besides, these types of nosocomial infections are not limited to the neonatal period but apply equally to continuously tube-fed patients who are also prone to severe nosocomial infections.
3. At the present time, nosocomial infections involving germs present in low quantities in powdered milk do not seem to result from the presence of the germs in the powder as we cannot ask producers to make sterile products. Besides, powdered milks are in line with the standards imposed by legislation. It is more likely to be the consequence of both events occurring in the preparation, storage, and administration of powdered milk preparations. The consequence would be the transformation of a non-sterile product with low inoculum into a high inoculum product once it reaches the infant.
4. With respect to newborn babies, breastfeeding must be favoured. A mother's milk contains numerous factors which protect the newborn from nosocomial infections.

Therefore, the recommendations of the SCH can be summarised as follows:

1. To review the standards of organisation and functioning of bottle-centres(Note 1) in maternities and neonatal centres, as well as hospital kitchens in charge of continuous enteral nutrition. The only standards available at present are stipulated in the Royal Decrees (RD) of 15 /12/78 and 20/08/1996 published in the Belgian Monitor of 1/10/1996.

Point II of the RD of 20/08/1996 stipulates:

Architectural standards of the NIC (Neonatal Intensive Care) wards:

”2.2. these wards must also have access to the following technical units:...5). A bottle-centre where preparation of food for neonates will take place. It will comprise two distinct compartments: one for cleaning and one for preparation, after sterilising the bottles. Aseptic teats should be available at all times.

2.3 The units mentioned in 2.2 can be located outside the wards. The bottle-centre premises could eventually be linked to those of the maternity ward.

2.4 It should be possible to express and store breastmilk in the most favourable conditions.”

In this RD, the personnel necessary for running the bottle-centres and their qualifications are not specified. The same applies to their means of funding.

However, the need for qualified personnel for running these bottle-centres – dietician, qualified nurse, or pharmacist – is well recognised abroad, in the USA or France for example.

Recommendation:

To this end, the SCH recommends the review of the organisational standards of bottle-centres and hospital kitchens. It would also be appropriate to define the personnel requirements for these units, to appoint a particularly well-qualified person in the fields of nutrition and hygiene at the head of the group, and to ensure the funding of these activities.

2. To publish recommendations relative to the preparation and storage of bottles in maternities and neonatal centres. (cf. ADA guidelines – American Dietetic Association). The only recommendations currently available are those published in 1993 by the SCH, which include architectural arrangements, functional recommendations, arrangements for storage and distribution in healthcare units. These would benefit from being revised with inspiration from the main guidelines recently published in the scientific literature and from the principles of HACCP (Hazard Analysis Critical Control Points), to reduce the risks of contamination and bacterial proliferation during preparation, storage and distribution in the healthcare units. These particular rules should also be subject to regular quality control procedures with reference to hygiene legislation (RD 7th February 1997).

Recommendation:

Thus, the SCH recommends the revision of standards governing the running of bottle-centres and hospital kitchens, bearing in mind the HACCP standards, to clarify their management and the qualifications of staff, and finally to install regular quality controls under the responsibility of the hospital Hygiene Committee.

- 3. The SCH recommends the examination of the validity of the current standards, bearing in mind the available technology. Preferably, this should be done at the European level, and better still, at a global level.**
- 4. The SCH also recommends organising a large-scale information exercise for the public on the rules of hygiene that should be respected in the preparation, storage and usage of infant formulas (baby milks) prepared at home.**
5. Breastfeeding promotion is essential to reducing infection rates in the neonatal period, and to favouring the development of neonates. It is important for the newborn in the maternity, but also for premature babies hospitalised in neonatal centres. For the latter, the recommendations published in the SCH document of 1993 are not sufficient. Breastfeeding promotion for premature babies requires the development of a breastmilk collection activity in hospitals, bacterial control and pasteurisation treatment when the quality standards of the collected mother's milk are not satisfactory. Since the demise of the last lactaria (the lactarium in Liege was closed on 31/12/2001 due to lack of funds), breastfeeding promotion in NIC units involves the development of a structure of collection and treatment of breastmilk.

Recommendation:

As a consequence, the council recommends breastfeeding promotion in neonatal services by publishing guidelines on usage and treatment of breastmilk, by giving concerned hospitals the means to develop these activities and to establish quality controls under the responsibility of the Hospital Hygiene Committee.

6. The SCH has also questioned the potential benefits of using ready-to-use liquid milks in maternity hospitals and neonatal centres. The advantage of ready-to-use liquid milks is most certainly their initial bacteriological quality, the reduction of contamination possibilities during their distribution and usage by services. However, they are more expensive from a management point of view, more cumbersome and their nutritional quality is inferior. Studies have indeed demonstrated the presence of a Maillard reaction, a reduction in protein absorption and a lower bio-availability of calcium in these preparations. Besides, using ready-to-use milks minimises the educational aspect for hospital staff that comes with the learning process of hygiene rules necessary to the preparation of infant foods. If the use of the liquid form is to be envisaged by maternities, their use is far less desirable in neonatal centres given their lower nutritional quality and the evolving needs of premature

babies.

Recommendation:

As a consequence, the Council recommends that the use of ready-to-use milks in maternities and neonatal centres not be generalised, but that the choice of their use should be left to paediatricians in charge of N+ (Non-intensive neonatal Centre) and NIC (Neonatal Intensive Care) in hospitals.

**The president of Section IV of SCH,
Professor A. Noirfalise**

- NOTE 1: These are “les biberonneries”, small kitchens where formula feeds are prepared for newborns.
- Note 2: This is not an officially approved translation into English.