INVESTIGATIONS OF LISTERIOSIS
IN AN OBSTETRIC-GYNAECOLOGIC
CONTINGENT AND NEW-BORN BABIES

L. Nicheva, P. Karakostov

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The listeriosis (L.) which causes immaturity, deliveries with congenital malformations and still-born babies (1, 8, 17—19) belongs definitely to the etiologic factors determining the perinatal morbidity and mortality rates. Many authors (2, 3, 11, 14, 15) report an intrauterine foetal infection and even death of new-born babies in the first 10 days after birth. In order to reveal the role of L. as a cause for abortions M. Macnaughton studied cervical secretions from 78 women with imminent or incomplete abortion. He failed to isolate any L. m. in these cases. Other investigators also report similar results (14, 20). E. Gomes-Mampaso et al. could isolate L. m. from endocervical and vaginal samples in 2.4 % of the cases. A number of authors (4, 5, 10, 12, 13) established foecal L-carriership in adults and new-born babies (6, 7, 16), along with certain negative results (10).

The aim our work was to study the L distribution in nonpregnant, pregnant and women in childbirth and in new-born babies.

Material and methods

Our study covers 150 non-pregnant women, 173 pregnant ones; 111 women in childbirth, 958 mature new-born babies, 161 premature ones (Ist, IInd, IIIrd and IVth degree) and 10 still-born babies. Vaginal secretions from women (respectively, cervical ones from non-pregnant women) and foecal samples only once were microbiologically investigated. A total of 1624 samples of meconium were taken from initial new-born babies' foeces followed by examinations on the 2nd, respectively on the 3rd day after birth. Single meconium samples were taken from 161 premature and 10 still-born babies. The materials were cultured in the medium of Holman or tryptose beef at +4 °C for 3—6 months. Monthly, they were replaced in the medium of Ralovich. The isolated strains were examined biochemically, serologically and regarding their antibiotic resistance. The haemolytic properties of the strains as well their pathogenicity for laboratory animals were studied by means of routine methods.

Results and discussion

Table 1 illustrates the bacteriological investigations for L. m. of pregnant and non-pregnant women. L. m. were isolated from 2 patients with defective obstetric anamnesis out of all ones (1.33 %). The results from cervical secretion specimens were negative which coincides with other authors' investigations (20). The epidemiologic study revealed that there are data about previously experienced influenza-like, urinary and other infections, especially preceeding pregnancy
Investigations of listeriosis in...

Table 1

Bacteriological investigation of listeriosis in obstetric-gynaecologic contingent

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number of studied persons</th>
<th>Material studied</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Vaginal-cervical secretion</td>
<td>Fœces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>%</td>
</tr>
<tr>
<td>Non-pregnant (defective) obstetric anamnesis</td>
<td>150</td>
<td>-</td>
<td>150</td>
<td>2</td>
<td>1,33</td>
</tr>
<tr>
<td>Pregnant with defective obst. anamnesis</td>
<td>67</td>
<td>-</td>
<td>67</td>
<td>2</td>
<td>2,98</td>
</tr>
<tr>
<td>With normal obstetric anamnesis</td>
<td>106</td>
<td>-</td>
<td>106</td>
<td>1</td>
<td>0,95</td>
</tr>
</tbody>
</table>

in 41 women (27,33 %). A contact with some animals and a consumption of row animal products was proved in 37,33 % of the women.

2 L. m. strains were isolated from pregnant women with defective obstetric anamnesis (2,98 %), and one L. m. strain only in pregnant ones with normal anamnesis (0,95 %).

The results from the bacteriologic examination of L. m. of vaginal secretions from women in childbirth are negative. L. m. were isolated from fœcal specimens of these women in 4,5 % only. Of them, 3 strains (10,34 %) of L. m. were isolated from women with defective obstetric anamnesis and 2 strains (2,44 %) from women in childbirth with normal one. The carrier of L. m. strain 5325 is an agricultural worker aged 32 years with 3 pregnancies (1 abortion at her own will and 2 children mature-born). There were no anamnestic data about any disease suspecting for L. A contact with domestic animals was ascertained. L. m. were not isolated from the new-born. This strain was agglutinated by “0”-L-serum (0-V, VI) which was susceptible to a wide spectrum of antibiotics.

Table 2

Bacteriologic data of new-born babies studied for listeriosis

<table>
<thead>
<tr>
<th>Groups new-borns</th>
<th>Total number</th>
<th>Meconium samples</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>mature</td>
<td>958</td>
<td>1624</td>
<td></td>
<td></td>
</tr>
<tr>
<td>premature</td>
<td>161</td>
<td>161</td>
<td></td>
<td></td>
</tr>
<tr>
<td>still-born</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

L. m. strain 6138 was isolated from fœcal specimen of woman in childbirth, a teacher living in a village. There were no anamnestic data about obstetric pathology in the past. She had already born 2 mature children. This strain belongs to the 1st serologic group and has well expressed haemolytic properties. It was pathogenic for white mice and rabbits and showed susceptibility to antibiotics.
L. m. strain 5826 was isolated from woman who was delivered of a premature child. Anamnestically, a spontaneous 6-month abortion was ascertained. During the last pregnancy she had had a 3rd month genital bleeding. No L. m. were isolated from the new-born. L. m. strain belongs to the first serologic group and was isolated from mother's foecal specimens. It was pathogenic for laboratory animals and susceptible to antibiotics.

L. m. strain 5702 was isolated from foecal specimen of woman in childbirth after first pregnancy with 4th month genital bleeding. No L. m. were isolated from her mature new-born. Mother's strain agglutinated with "0"-L serum (0-V, VI) which was pathogenic for laboratory animals and susceptible to antibiotics.

L. m. strain 5728 was isolated from a woman—dress maker who was delivered of a premature child and had anamnestically another still-born baby. No L. m. were isolated from the new-born. Mother's foecal strain belongs to the first serologic group. It is haemolytic and pathogenic for laboratory animals.

One can see on table 3 that 1795 studied meconium specimens taken from 1219 new-borns (mature, premature and still-born) are negative for L. m. The lack of positive results may be due also to the fact that in most cases meconium samples were taken just once only and, especially in premature new-borns, their quantity was scanty, indeed.

We could conclude that L. m. are isolated more frequently from non-pregnant, pregnant and women in childbirth with defective obstetric anamnesis. The isolation of virulent L. m. strains from pregnant and women in childbirth allows us to presume the presence of inapparent forms of infection.

REFERENCES

ИССЛЕДОВАНИЕ ЛИСТЕРНОЗА АКУШЕРО-ГИНЕКОЛОГИЧЕСКОГО КОНТИНГЕНТА И НОВОРОЖДЕННЫХ

Л. Ничева, П. Каракостов

РЕЗЮМЕ

В двух из исследованных фекальных проб 150 необремененных женщин с обременным акушерским анамнезом изолированы листерии. Это составляет 1,33 % всех случаев. У беременных с обременным акушерским анамнезом (67) изолировано два штамма L. monocytogenes (2,98 %), а у беременных с необременным акушерским анамнезом (106) — один листерийный штамм (0,95 %). Листерии изолированы из фекальных проб 5 рожениц, что составляет 4,50 % из 111 исследованных. Результаты исследования проб вагинального секрета рожениц и беременных и цервикального секрета небеременных отрицательны. Исследованы пробы 1129 новорожденных (доношенных, недоношенных и мертворожденных) — всего 1975 проб мекониум, которые оказались отрицательными по отношению к L. monocytogenes.