EFFECT OF TERRAMYCIN IN BALANTIDIOSIS OF PIGS
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EFFET DE LA TERRAMYCINE DANS LA BALANTIDIOSE DU PORC. — Dans un élevage industriel de porcs à Lubumbashi (Zaïre), Balarrtidium coli a provoqué une maladie sèvère et mortelle chez les porcelets. L'administration de terramycine, à la dose de 15 mg/kg de poids vif deux fois par jour, mêlée au concentré, a entraîné la guérison clinique de tous les porcelets traités. Ceux-ci étaient blanchis parasitairement dans 14 cas sur 20, chez les 6 animaux restant, le taux d'infestation est tombé de +++ à +.

Outre son large spectre antibactérien, la terramycine étant active sur B. coli, elle pourrait être utilisée pour le traitement étiologique de la balantidiose clinique du porc.

Introduction

Balantidium coli is considered as an inoffensive parasite of pigs by certain authors. However this generalisation may not be true in all cases. We have observed in Lubumbashi, in an industrial pig farm, epizootic forms of balantidiosis. Its first outbreak was recorded in 1973 following perturbances in hygienic conditions and feeding regime. Since then the things have not improved and in pigs between 2 to 6 months of age 30 to 40 per cent die of this disease.

The opinions about the efficacy of antibiotics against B. coli are contradictory. Marchand (1971) considers antibiotics inefective in porcine balantidiosis. Levine (1973) and Soulsby (1974) consider the terramycin effective at least in human balantidiosis. Keeping in view the large spectral activity of terramycin against many organisms and encouraging results of its effects in human balantidiosis it was thought worthwhile to try it in porcine balantidiosis.

Materials and methods

Thirty five 3 months old piglets having diarrhoea and positive for B. coli on microscopical examination of faeces were selected from an industrial farm near Lubumbashi where the disease is known to occur since 1973. They were divided into 2 groups. Group 1 consisted of 20 piglets to be treated with terramycin and group 2 of 15 animals which did not receive any medication and served as control group. The two groups were maintained in separate pens...
under identical conditions. The body weight of the piglets varied between 33 to 36 kg (average 34.25 ± 1.13 kg).

Oxytetracycline hydrochloride (terramycin) was used as powder at the dose rate of 15 mg/kg body weight twice daily. The total dose of terramycin for 20 piglets was mixed with feed concentrate and given every morning and evening for 5 days. Care was taken that animals consumed all medicated concentrate before they could be provided with any other feed. Since all the piglets were of the same age and almost same weight they all consumed their share of medication with concentrate.

Before, during and after the treatment period consistancy of faeces (whether diarrhoeic, soft or well formed) were noted. The level of infection by B. coli was evaluated before the treatment and 48 hours after the end of medication revealed the total absence of B. coli in 14 animals. The remaining 6 had still low level of infection (+ instead of +++).

The condition of piglets of the control group deteriorated gradually, diarrhoea continued and 4 of the 15 piglets died (1 on 3rd day, 2 on 4th day and 1 on 5th day of experiment). The level of B. coli in faeces continued to increase progressively.

The culture of faeces revealed the presence of Escherichia coli, Streptococci, Staphylococci, Enterococci, Gram positive and Gram negative rod like organisms.

**Discussion**

The clinical balantidiosis if not treated can assume a fatal form leading to heavy loss was shown in control group. This together with our previous observations proves that balantidiosis is not necessarily a benign or harmless parasite as mentioned by Levine (1973). Our observations support the view of Almejew (1963) who found acute balantidian dysentery fatal in certain cases.

Terramycin was able to eliminate the infection in 14 out of 20 cases and reduced it from +++ to + in 6 cases. This anti-balantidian activity combined with its well known bacteriostatic and bactericidal action against many microorganisms may prove

<table>
<thead>
<tr>
<th>Time of examination</th>
<th>Consistency of faeces</th>
<th>Level of B. coli infection</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Soft</td>
</tr>
<tr>
<td>Before treatment</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>After treatment</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>
Terramycin as a useful medicine in balantidiosis where undoubtedly other concomitant microbial infections are present. Although its activity is lesser than furazolidine (86.9 %) and niridazole (89.3 %) [Verhulst and Kifuka, 1975; Verhulst and Cornet, 1975] it may be an useful alternative medicine specially in tropical conditions where due to many factors mostly a disease is complicated by other simultaneous infections as in the farm near Lubumbashi. Our observations support and expand the view of Levine (1973) and Soulsby (1974) who mention its usefulness in human balantidiosis.

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Summary

In an industrial pig farm in Lubumbashi, Zaïre, *Balantidium coli* produced severe clinical and fatal disease. Terramycin at a dose rate of 15 mg/kg body weight administered twice daily with concentrates gave clinical recovery in all the pigs treated. The complete parasitological recovery was obtained in 14 out of 20 animals. In the remaining 6 there was significant reduction in the number of *B. coli*. Keeping in view the large spectrum of activity of terramycin in various infections as well as *B. coli*, terramycin can be useful in the treatment of balantidiosis of pigs.

References


