Community-based treatment of onchocerciasis with ivermectin: acceptability and early adverse reactions*

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A study of community-based treatment of onchocerciasis with ivermectin was undertaken in a rain forest area of Liberia to investigate the possible occurrence of serious adverse effects. The total population was 13,704, the microfilarial load was 5.35 mf/mg skin, and the prevalence of Onchocerca volvulus infection was 50% at 9 years of age and over 80% among those aged 15 years and older. Certain groups (like pregnant women and young children) were excluded from treatment.

Out of the 7,956 people eligible for treatment, 7,699 (97%) accepted the ivermectin. Data on possible adverse reactions were collected by four different methods, including systematic house-by-house follow-up visits three days after treatment, biweekly population surveillance, and monitoring of both mobile clinic records and hospital records. No severe adverse reactions were noted, and no deaths could be related to ivermectin treatment; only 1.3% of the persons treated had a moderate adverse reaction of the Mazzotti type, presumably related to the killing of microfilariae. The study showed good acceptance by the population, and that mass treatment campaigns with ivermectin are feasible.

Introduction

Onchocerciasis, a parasitic infection caused by Onchocerca volvulus, is endemic in many parts of Africa and Latin America. Over 17.5 million people are estimated to be infected, with almost 1 million suffering from visual impairment (1). Ivermectin is a promising drug for large-scale treatment of this disease, a single annual dose of 150 µg/kg being the optimal dose for safe and efficient reduction of the microfilarial load (2–6). Community-based ivermectin treatment could become the first choice for combating onchocerciasis, especially in regions where other means such as vector control are not practical (5). Before ivermectin can be used to treat the millions of people suffering from onchocerciasis in these areas, more experience is needed of community-based distribution of this drug in order to identify any as yet unrecognized adverse effects. This article describes the initial findings of one such trial.

Methods and subjects

Location

The community-based distribution of ivermectin was undertaken at the Liberian Agricultural Company’s (LAC) rubber plantation in Grand Bassa County, Liberia, during the months of September to December 1987. The climate is typical for a rain forest, with a dry season from the end of November until mid-May. The average yearly rainfall is approximately 3000 mm, and the biotope is dominated by rubber trees. The plantation is divided into 4 estates with 73 camps or residential areas (Fig. 1), with a population of approximately 14,000 (employees and their dependents from different parts of Liberia and including a few expatriates). Their main activities are related to the tapping, collecting, and processing of rubber.

Distribution of treatment

Field work started with the selection and training of three local Liberian teams: a census and treatment team, a surveillance team, and a data entry team. During the training period, forms and procedures

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were field tested and adapted. Each camp or residential area of the plantation was numbered and mapped, and each housing unit had a number clearly painted next to the door.

Distribution of treatment took eight weeks to complete. The census-treatment team performed a de facto census of each household and treated all eligible people. A household was defined as all people "sleeping" in the same housing unit. The following were excluded from treatment: (a) children younger than 5 years of age; (b) pregnant women; (c) women breastfeeding a child less than 3 months of age; (d) people with neurological illnesses or a history of neurological disorders; and (e) children aged 5 to 11 years who were found not to have microfilaria when skin snipped.

Consent was obtained from all eligible people who were then weighed on bathroom-type scales. The discs on the scales were colour-coded for each treatment category. Treatment was distributed as follows:

- persons weighing 30–44 kg received one tablet (6 mg; range 136–200 μg/kg)
- persons weighing 45–64 kg received one and a half tablets (9 mg; range 140–200 μg/kg)
- persons weighing more than 64 kg received two tablets (12 mg; range 114–188 μg/kg)

The tablets were taken in the presence of a team member and this was noted on the census chart. To ensure satisfactory coverage of each camp, the team did not leave a camp before each team member had less than 10% absentees.

During the initial household census, children aged 5 to 11 years were referred to a central examination site where skin snips were taken with a 2 mm Castroviejo sclerocorneal punch. The punch was rinsed in glutaraldehyde (2%), water, and then alcohol and allowed to dry before being used on the next person. Four snips were taken from each person, one from each calf and each iliac crest. The snip was placed in a flat-bottomed microtiratration plate containing 0.1 ml tissue culture medium (RPMI) with penicillin (100 U/ml) and streptomycin (100 μg/ml) and incubated overnight. After counting the microfilariae using an inverted microscope, positive skin samples were removed from their wells, blotted dry, and weighed on an electronic scale.

Those children who had positive snips and other family members who were absent during the initial census were treated three days later. In five camps ("adult sample camps"), everyone had four skin snips taken to provide an indication of the level of infection at the time of treatment and to follow the impact of treatment. These camps were chosen for their location on the plantation and because their size approximated the mean camp size (Fig. 1).

The microfilarial load was expressed as microfilariae per mg skin. The plantation microfilarial load (PMFL) was calculated using the geometrical mean of four snips per person for all persons aged 20 years and older, as given by the following formula:

$$e^\lambda - 1$$

where $\lambda = \frac{1}{n} \sum_{i=1}^{4} \sum_{j=1}^{4} \ln\left( \frac{C_{ij}}{W_{ij}} + 1 \right)$

where $C_{ij} =$ microfilarial count of the $j$-th snip of the $i$-th person and $W_{ij} =$ the weight in mg of that snip, using all skin snip sites and all subjects aged 20 years and older living in the sample camps.

The mean microfilarial density (MMFD), which gives a measure of the microfilarial burden in infected subjects, was calculated for those with positive skin snips using the same formula.

Three days after each distribution of ivermectin, the team again visited each household and sought out those with potential adverse reactions. This was
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termed the day-3 follow-up examination. Persons complaining of an untoward effect were sent to the central examination site where a physician examined the patient and gave appropriate treatment. Severe adverse reactions were defined as those that caused death or were life-threatening, or caused permanent incapacity. Moderately severe reactions were defined as those that would prevent the person from working or performing his usual daily activities. For those with severe or moderately severe complaints, a form was completed, recording the nature and severity of the complaint and its association with ivermectin treatment.

All data were entered on a daily basis using interactive data entry programs and portable computers.

Surveillance system and monitoring
A system of plantation-wide surveillance was established to detect severe and delayed adverse reactions. Two physician assistants visited each camp every two weeks. This plantation-wide surveillance was started one month prior to treatment and is currently ongoing. Data from August 1987 to February 1988 are presented here. A list of all registered employees and their dependents was compiled prior to the start of the surveillance and entered into a computer database. The first surveillance round consisted of house-to-house visits with verification and correction of the master list. During each successive visit, the physician assistant updated the camp lists with the camp master, who is the person responsible for the camp. Together they reviewed the list to determine whether, since the last visit, anyone had died or moved or if any pregnant woman had given birth or miscarried. For any reported death, a "verbal autopsy" (a questionnaire probing the cause of death) was conducted with a close family member or friend. For anyone who had moved, they determined where the person had moved, why they moved, and their state of health. For any delivery, they contacted the mother and determined the duration of pregnancy, where the baby was born, and the sex and condition of the child. The computerized data set recording this information was updated on a daily basis which permitted the tracking of individuals who had moved from one camp to another.

In addition, existing health facilities were used to monitor the occurrence of any other potential adverse reactions. The plantation has a 50-bed hospital with three full-time physicians and a mobile outreach clinic which is held in 11 peripheral health posts. Any patient seen at the hospital with complaints possibly related to ivermectin treatment was referred to the medical director who recorded their complaints and his findings.

The mobile outreach clinic, which dispenses primary health care throughout the plantation, examines and treats approximately 150 people per day. A daily list was kept of the number of people presenting with any of the following nine symptoms that could potentially be related to an adverse drug reaction; high fever, nausea or vomiting, jaundice, chest pain, dizziness, headache, falls, fits, and weakness or lassitude. These lists were begun six weeks prior to the start of ivermectin treatment and continued during the distribution of treatment.

Data were collected for men, women, and children (5 years and older). The data collected at each stop of the mobile clinic were standardized so that the week that ivermectin was distributed in that particular catchment area was designated as week 1. The weeks before treatment are referred to as week -1, -2, etc., and in a similar way the weeks after treatment are referred to as weeks 2, 3, and so on. The mean number of daily consultations in the weeks before treatment in that area provided the expected number of consultations. The actual number of consultations in each week after treatment was compared to this number so that data are expressed as the ratio of increase or decrease in expected weekly consultations.

Results
Population characteristics
The census, taken in each camp on the day of treatment there, showed a total population of 13,704. The mean population per camp was 190, with 8 persons in the smallest camp and 648 in the largest. The mean age of the population was 19 years; 50% of the population were 16 years old or younger and only 3% were 50 years or older (Fig. 2). There was a moderate excess of males (55% of the population) which was most marked in the age groups of 0–14 years old and 25 years and older.

The employees were generally assigned to camps or residential areas by occupation, e.g., one camp for hospital employees, another for drivers and their families, and so on. The factory and workshop were located in the northern end of the plantation; people living in camps in this area tended to have more specialized skills and were not rubber tappers. The administrative camps lodged the clerks, security personnel, teachers, and so forth. The "residential areas" lodged the higher administrative cadres including the expatriates.

Skin snips (mean weight, 2 mg; SD, 0.7 mg) were taken from 3,217 persons; 95% of the children aged 5

to 11 years were skin snipped. The five sample camps represent 7.7% of the total population, and 93% of all eligible persons there were snipped. The sample camps closely resemble the rest of the plantation in terms of age structure and severity of onchocerciasis. After controlling for sex, there was no significant difference in either disease prevalence or MMFD between the children aged 5 to 11 years in the sample camps and those of the same age in the rest of the plantation, nor was there a difference in prevalence or MMFD between the sample camps after controlling for age and sex. The age and sex structure of the sample camp population was the same as that of the other camps.

Overall, the prevalence of infection increased rapidly up to the age of 20 years, after which the prevalence remained constant at about 90% (Fig. 3). The intensity of infection and MMFD also increased by age (Fig. 4). Males had a slightly higher MMFD than females (5.55 mf/mg skin versus 5.05 mf/mg). The overall PMFL level of infection was 5.35 mf/mg.

The levels of infection were relatively uniform across the plantation. Eleven different groups of camps were made according to location and occupa-
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Fig. 4. Mean microfilarial density, by age group.

Table 1: Data on population by status of eligibility for treatment

<table>
<thead>
<tr>
<th>Eligible:</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treates</td>
<td>7699</td>
</tr>
<tr>
<td>Refusals</td>
<td>257</td>
</tr>
<tr>
<td>Subtotal</td>
<td>7956</td>
</tr>
<tr>
<td>Ineligible:</td>
<td></td>
</tr>
<tr>
<td>Children under 5 years old</td>
<td>2782</td>
</tr>
<tr>
<td>Skin-snip negative children</td>
<td>1399</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>640</td>
</tr>
<tr>
<td>Breastfeeding mothers</td>
<td>209</td>
</tr>
<tr>
<td>Enrolled in previous studies</td>
<td>128</td>
</tr>
<tr>
<td>Seriously ill</td>
<td>44</td>
</tr>
<tr>
<td>Absent</td>
<td>556</td>
</tr>
<tr>
<td>Total</td>
<td>13704</td>
</tr>
</tbody>
</table>

* Figures in parentheses are percentages.

Adverse reactions

During the day-3 follow-up, 28 persons with moderate complaints were detected and examined. An additional 73 presented at the hospital as out-patients with complaints (mostly oedema and pruritus) that were associated with ivermectin treatment (Table 2). Of the hospital cases, 75% presented in the first week following treatment; 25 persons went to the hospital on the first and second days after treatment without waiting for the day-3 follow-up. Eleven preferred to go to the hospital on day 3 rather than wait for the team; seven of them lived within 2 km of the hospital, but two lived as far away as 10 km. The age and sex distributions of people with
Table 2: Complaints related to ivermectin treatment in patients presenting to the hospital and those detected during the day-3 follow-up

<table>
<thead>
<tr>
<th>Complaint</th>
<th>1-2 days</th>
<th>3 days</th>
<th>4-7 days</th>
<th>8-33 days</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oedema*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower limbs</td>
<td>4</td>
<td>8(5)*</td>
<td></td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Upper limbs</td>
<td>2</td>
<td>9(5)</td>
<td></td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Face</td>
<td></td>
<td>11(11)</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Pruritus</td>
<td>5</td>
<td>6(4)</td>
<td>4</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Body pain</td>
<td>10</td>
<td></td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Ocular irritation</td>
<td>3</td>
<td>2(0)</td>
<td>3</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Arthralgia</td>
<td>2</td>
<td>1(0)</td>
<td>4</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Painful lymph nodes</td>
<td>2</td>
<td>5(5)</td>
<td></td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Headache</td>
<td>4</td>
<td></td>
<td></td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Dizziness</td>
<td></td>
<td>3(3)</td>
<td></td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Fever</td>
<td>2</td>
<td></td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Nausea</td>
<td>1</td>
<td>1(0)</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Weakness</td>
<td></td>
<td>1(0)</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total number of patients</strong></td>
<td>25</td>
<td>39(28)</td>
<td>19</td>
<td>18</td>
<td>101</td>
</tr>
</tbody>
</table>

* Includes the 2 patients with vesicles and bullae.
* Figures in parentheses are the number of patients seen by the team at the day-3 follow-up.
* Several patients had more than one complaint.

Table 3: Age and sex distribution of patients with ivermectin-related complaints who were seen in the hospital or at the day-3 follow-up and the incidence rates per 1000 treated

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Seen at hospital*</th>
<th></th>
<th>Seen at day-3 follow-up</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Rate/1000 treated</td>
<td>Male</td>
</tr>
<tr>
<td>5-11</td>
<td>2</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12-24</td>
<td>12</td>
<td>2</td>
<td>5.3</td>
<td>10</td>
</tr>
<tr>
<td>25-49</td>
<td>42</td>
<td>4</td>
<td>12.7</td>
<td>8</td>
</tr>
<tr>
<td>≥50</td>
<td>6</td>
<td></td>
<td>15.2</td>
<td>--</td>
</tr>
<tr>
<td><strong>Rate/1000 treated</strong></td>
<td><strong>13.6</strong></td>
<td><strong>2.4</strong></td>
<td></td>
<td><strong>4.0</strong></td>
</tr>
</tbody>
</table>

* In addition, there were five persons of unknown age (3 males, 1 female and 1 of unknown sex).

adverse reactions seen in the camps at the day-3 follow-up differed from those seen at the hospital. At the hospital the male/female ratio was 6:1, persons aged 50 years and older being 7 times more frequent as children 5 to 11 years of age. At the day-3 follow-up in the camps, the distribution of complaints was comparable in all age and sex groups (Table 3).

Only three people reported to the hospital more than 2 weeks after treatment: a 44-year-old man with bilateral pedal oedema 30 days after treatment, a 15-year-old male with pruritus and pain 32 days after treatment, and a 56-year-old male with pruritus 33 days after treatment.

Two persons were hospitalized briefly. One, a 49-year-old man, was seen by the team on day 3 with severe pruritus, especially of the lower limbs. He had small areas of excoriation on the lower extremities and was treated with antihistamines. On day 21, he was hospitalized for a scrotal abscess; at that time, the lesions on the legs had resolved. He received trimethoprim-sulfamethoxazole treatment but then developed swelling of both hands and forearms which was thought to be a reaction to the sulfonamide. The other, a 30-year-old man, was hospitalized two days after treatment with swelling of the groin and pain in his buttocks and legs. He recovered and was discharged on the third day.

Two persons with oedema developed late com-
plications. One, 48-year-old man was seen on the
day-3 follow-up with no complaints but two weeks
later developed swelling of the right leg with bullae on
the lateral aspect of the ankle. Another, 30-year-old
man presented at the hospital 13 days after treatment
with bilateral oedema of the upper limbs. Four vesicles
were noted at wrist level. Both were treated as
outpatients and the lesions resolved without any
complications. Both of them resided in the same
camp, denied the application of any product on their
skin, and had no recall of insect or snake bites.

Biweekly plantation-wide surveillance

The initial surveillance population consisted of
13,856 persons in 2968 households. During the first
six months of surveillance, 180 children were born
and 15 people died. A total of 1457 persons moved,
1256 of them between camps in the plantation; 192
(1.4%) from 73 households left the plantation, the
main reasons for leaving being dismissal by the
employer or resignation. Two families left because
the employee was sick, but neither of them had
received ivermectin prior to leaving. Most of those
who left returned to their home village, but a few
(7%) went to the larger cities. Half of the households
which left were one-person households, and the mean
household size for those leaving was 2.6 compared to
4.7 for those in the plantation. For 13 families or 25
people (13% of people leaving LAC), a reason or
destination could not be determined.

Fifteen people died during the 6-month period
of surveillance; three of them had taken ivermectin
prior to death. One was a 48-year-old male who died
44 days after ivermectin treatment from a surgical
intervention for an intestinal obstruction. Another
was a 50-year-old male who died from chronic pul-
monary tuberculosis 42 days after ivermectin treat-
ment. The third was a 39-year-old male who died 14
days after treatment; the exact cause of death is
unclear as he died in his sleep after being on an
alcoholic binge for several days. His death certificate
gives no diagnosis. His past medical history shows 10
visits to the LAC hospital from 1978 to 1987; five of
them for body pain and backaches, all treated with
analgesics. In 1987, he was seen twice—once for a
wound of his foot and once 4 months before his death
for malaria. Of the other 12 people who died, 8 were
under 5 years of age, 3 died in the period before their
camp was treated, and 1 was absent during treatment
day in his camp.

Most of the births registered during the sur-
veillance occurred at the hospital (101 out of 180) and
could be linked with the hospital records. The male/
female ratio was 1.2:1. Most of the reported births
were live and single but two births were of live twins.

Only one abortion was reported. Three of the new-
born children born were later detected as having
died.

Mobile outreach clinic

The number of weekly consultations by the mobile
clinic before treatment was fairly stable, although for
the first 3 weeks after treatment there was a decrease
in consultations with approximately 20% (150) fewer
consultations per week (Fig. 5). For the nine major
symptoms of interest, there were no spontaneous
consultations for lassitude or weakness, fits, falls, or
jaundice before or after ivermectin intervention. The
mobile clinic saw 2 children and 11 adults with high
fever, all in the weeks preceding treatment. No adults
were seen for severe headaches, whereas 3 children
had this complaint over the 17-week period. These 3
children were all under the age of 5 and none had
been treated. More people complained about dizziness,
nausea, and vomiting before ivermectin treatment
than after. However, there was an increase in
the number of people presenting with nonspecific
chest pain in the first week after treatment; this
was not reported as being associated with any
demonstrable clinical illness and resolved without
any treatment.

Discussion

Ivermectin has been proved in clinical trials to be
safer and more effective than other microfilaricidal
drugs (4-6). The present study suggests that it can
be safely used in community-based treatment pro-
grames. Such programmes should include follow-
up visits to the treated villages in order to detect
and treat moderate adverse reactions which can be
expected in approximately 1% to 2% of the treated
people. However, medical supervision of treatment
may be necessary in those areas where an appro-
priate health care system does not exist. In areas with
an existing health care system, it would seem that
most adverse reactions could easily be managed by
primary health care workers. Teams delivering iver-
mectin should be aware of the possible reactions.
They should explain to the patients the common but
minor effects which could occur in up to 25% of
treated patients as part of a mild Mazzotti reaction.
These reactions are self-limiting and have been re-
ported to be less severe on subsequent annual retreat-
ment (6).

O. volvulus infection, as expressed by both pre-
valence and MMFD, was remarkably uniformly dis-
tributed over the plantation. The difference in
prevalence and MMFD found in the administrative
camps is probably due to a difference in life-style and
other socioeconomic factors that affect exposure of those who live in these camps.

Prevalence and MMFD are often used as measures of the infection. The age-specific prevalence of infection in the plantation is very similar to the prevalence reported in the Onchocerciasis Control Programme area, the savanna areas of Cameroon, and the rain forest area of Côte d’Ivoire (7–9). On the other hand, the prevalence at LAC in the 5–9-year-old age group was less than that reported for the Cameroon rain forest area.

Calculating the arithmetic mean, we found a microfilarial skin density of 20 mf/mg at the iliac crests, which is lower than the 85 mf/mg at the buttock level in the Cameroon rain forest area as reported by Anderson et al. (7). Infection intensity in Côte d’Ivoire was more similar to our findings (White & Newland, 1987, unpublished data). However, a direct comparison of results between studies is difficult since the age structure and the methods of skin snipping and handling the snips can vary greatly as can the methods of expressing the results (e.g., community microfilarial load vs. MMFD, mf/mg vs. mf/snip, and arithmetic vs. geometric means). The number of skin snips taken from each person can also influence the reliability of the data (10). In our study, 4 skin snips were taken from each person; but if only 2 hip snips had been taken, the PMF1 in our study would have been higher (6.88 instead of 5.35 mf/mg) but the prevalence would have been 1% lower.

No deaths can be directly related to ivermectin treatment. In the case of the 39-year-old male who died with no diagnosis, the two-week interval between treatment and death renders a diagnosis of death due to ivermectin highly unlikely.

Moderate adverse reactions were relatively uncommon, occurring in only 1.3% of treated people, and they were self-limiting. The reactions that were seen did not require complicated treatment strategies. Most reactions reported occurred in the first two weeks after treatment and were related to the Mazzotti type reaction. Vesicles and desquamation are commonly seen as part of the Mazzotti reaction after diethylcarbamazine treatment. However, we have no ready explanation for the appearance of vesicles and bullae in two of our patients two weeks after treatment.

More men registered complaints than women.
This may be partly explained by a higher microfilarial load in males than in females. However, 37 out of the 72 people who presented to the hospital had easy access to the hospital and lived within 3 km. Treatment at the hospital is free for LAC employees and their dependents, and a note from a LAC physician is necessary to be excused from work. Most complaints noted by the team were seen in the northern part of the plantation where the distribution of treatment was first started. Three cases of dizziness were seen during the day-3 follow-up. They were all seen in the week after the team had been informed that severe postural hypotension had been encountered in another study area and that team members should specifically warn people about this symptom. Later, when the team no longer specifically mentioned dizziness, although indirectly continuing to search for it, there were no further cases.

Numerous people saw the team physician for minor or vague complaints. This is because it was publicized that the team physician should see all those who were not well and that people presenting with complaints would receive treatment. The complaints mentioned most often were vague body pains and mild to moderate generalized itching. The distribution of medicines by the team physician (acetylsalicylic acid, chloroquine, chlorphenamine) could partly account for the 20% drop in the number of people seen by the mobile clinic during the weeks after treatment, since this would have satisfied the need for symptomatic therapy ordinarily delivered by the mobile clinic.

Although skin snips were taken from all children aged 5 to 11 years in this study, it appears reasonable in community-based delivery programmes to proceed with treatment in all persons over 5 years of age. Weighing the subjects and recording the administration of treatment is the most time-consuming part of such a programme. Colour-coded scales such as we used can simplify the process of determining the appropriate dosage for each person.

The present results provide reassurance that ivermectin is appropriate for use in mass treatment campaigns and that it will be well accepted by the persons at risk for onchocerciasis.

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Résumé

Traitement de l’onchocercose par l’ivermectine à l’échelon communautaire: acceptabilité et réactions indésirables précoces

Une étude du traitement de l’onchocercose par l’ivermectine à l’échelon communautaire a été entreprise dans une région de forêt ombrophile du Libéria en vue d’évaluer le risque d’effets indésirables graves. Le médicament a été distribué au cours d’un recensement des ménages. Des biopsies cutanées excisées ont été pratiquées sur tous les enfants de 5 à 11 ans et sur tous les adultes vivant dans cinq camps.

Au moment du traitement, la population totale était de 13 704 personnes. La prévalence de l’infection par Onchocerca volvulus était de 50% à l’âge de 9 ans et de 88% chez les personnes âgées de 20 ans et plus, avec une charge microfilarienne moyenne de 5,35 mf/mg de peau chez les adultes.

Certains groupes (notamment les femmes enceintes ou allaitantes et les enfants de moins de 5 ans) étaient exclus du traitement. Sur les 7 956 personnes jugées aptes à subir le traitement, 7 699 (97%) ont accepté de prendre de l’ivermectine. Quatre méthodes différentes ont été utilisées pour recueillir des données sur d’éventuelles réactions indésirables: suivi systématique par des visites à domicile trois jours après le traitement, surveillance bi-hebdomadaire de la population, examen des dossiers des cliniques mobiles et examen des dossiers des hôpitaux. Aucune réaction grave n’a été notée et aucun décès n’a pu être lié à la prise d’ivermectine. Sur l’ensemble des sujets traités, seulement 101 (1,3%) ont eu une réaction modérée de type Mazzotti liée probablement à la mort des microfilaries. Deux personnes ont dû faire un bref séjour à l’hôpital. La plupart des réactions se sont produites au cours de la première semaine suivant le traitement et toutes ont disparu spontanément.

L’étude a montré que des campagnes de traitement de masse par l’ivermectine étaient réalisables et que le médicament était bien accepté par la population.
References