

**Memorandum**

Date .January 31, 1984

From Dracunculiasis Group, CDC

Subject GUINEAWORM WRAP-UP #4

To Addressees

NATIONAL ACTIVITIES

--- CAMEROON -----

We are informed that public health officials, working with a consultant from the University of Bordeaux, have recently delineated the last area (in the extreme north of the country) in which dracunculiasis is still endemic. The purpose of the undertaking was to gather information that can be useful in planning activities for interrupting transmission of the disease.

--- INDIA -----

Recent Incidence of Dracunculiasis

India's National Institute of Communicable Diseases has issued a revised edition (1983) of the operational manual for its Guineaworm Eradication Programme. This manual lists incidences of dracunculiasis cases as revealed by active search: 1980--31,973; 1981--37,325; 1982--42,926. Another active search, undertaken in November 1983 has produced an estimate of 7 million potential workdays wasted each year.

Sixth Task Force Meeting (Tirupati)

During June 1982, as during June and November of 1983, no cases of dracunculiasis were detected in Tamil Nadu State. In Lalitpur district of Uttar Pradesh (bordering Madhya Pradesh) dracunculiasis infection was found in one village. All States in which dracunculiasis is endemic (except severely-affected Rajasthan) expected that the Rural Water Supply Programme would allocate funds for a source of safe drinking water in each village then known to have an unsafe supply.

Regional Workshop

State government officials attended a regional workshop sponsored by The Tribal Research Institute in Udaipur, India. Health and development departments, research and educational institutions, and voluntary organizations were represented.

The purpose: To integrate regional efforts for control of dracunculiasis with the (national) Guinea Worm Eradication Programme.

The method: Through the stimulation of collective action in Rajasthan's most severely affected southern districts.

The discussion centered around the nature of the physical and social environments of the villages; ways of creating access to safe drinking water; the need for preventive, promotional, and curative health care; and the organizational means of extending such care to the affected populations.

-- MAURITANIA -----

Geographic Distribution

From a recent informal report:

There is virtually no dracunculiasis either in the north of Mauritania, or along the seacoast. Neither is this disease often found along the western one-third of the Senegal River, which forms the border between Mauritania and Senegal. But the infection is widespread along some other stretches of this river, and along the Gorgol River (a tributary of the Senegal) in the southern regions of Gorgol, Guidimaka, and Assaba.

A second nexus of dracunculiasis includes the eastern towns of Nema and Oualata. The wells in these towns are contaminated, and there are no other sources of water. During the 18 months ending in July, 55 dracunculiasis cases were reported among Nema's 11,000 inhabitants. A WHO official has estimated that actual incidence is 10 times this reported figure. (The people know that treatment is not available; therefore, cases are not brought to the attention of officials.) In Oulatta, recent reports mention only 140 cases of dracunculiasis, but as many as half of the inhabitants are thought to be infected.

-- NIGERIA -----

Meeting Postponed

The national dracunculiasis meeting originally scheduled for late 1983 at Ilorin has been postponed until an as-yet-unannounced date in 1984.

Index of Safe-Water Availability and Usage

Last November UNICEF/Nigeria*, seeking reliable indicators of the effects of newly created safe-water supplies, invited an epidemiologist

*United Nations International Children's Emergency Fund / Nigeria

to Nigeria for consultation. Protocols for maintaining the relationship between incidence of dracunculiasis and UNICEF's drinking water projects in rural areas of Imo, Gongola, and Kwara States were developed during the consultant's visit.

-- TOGO -----

Economic Losses

An informal report from Togo's Division of Epidemiology contains the following estimate:

About 444,000 of that country's 2.8 million inhabitants had dracunculiasis sometime during 1982. If an average loss of 90 workdays per person were assumed, the disease could be blamed for waste of 40 million potential workdays each year.

-- UPPER VOLTA -----

Research

See also "Guiguende, T.R." under RECENT PUBLICATIONS
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We have been informed that OCCGE, WHO, and USAID's "Strengthening Health Delivery Systems" project* now supports research into the economic effects of dracunculiasis. Under its auspices, T.R. Guiguende** has begun a three-year study in a village in which the disease is endemic. He will measure the effect of health education on human behavior with respect to a safe supply of drinking water. Incidence of dracunculiasis will be the main means of detecting and measuring results caused by changes in behavior. Also, Dr. Guiguende is cooperating with economists from the University of Dijon in an effort to ascertain the socio-economic toll of endemic dracunculiasis.

RECENT PUBLICATIONS

Adekolu-John, E.O. 1983 The impact of lake creation on guinea-worm transmission in Nigeria on the eastern side of Kainji Lake. International Journal for Parasitology, Vol 13, No 5, 427-432

Before Kainji Lake was filled, low rates of guineaworm transmission had been recorded by workers in dispensaries at two villages in the the area to the east of the present lake shore. The disease has occurred at epidemic rates only since the lake was formed in 1968. A prevalence of 31 percent was recorded in the five villages in which guineaworm was found. Incidence at the peak of the outbreak, and the

*L'Organization de Coordination et Cooperation pour la Lutte Contre les Grandes Endemies, World Health Organization, United States Agency for International Development.

**An Upper Voltan scientist, at the Centre Muraz in Bobo Dioulasso

economic importance of the disease, are presented. Kainji Lake's postulated role in the epidemiology of the disease is discussed and the need for biological study of the vector of the disease is suggested.

Brieger, W.R., et al. 1983 Effect of guinea worm on schoolchildren World Health Forum (Readers' Forum) Vol 4, 324-5

The negative effect of dracunculiasis on the educational process in primary and secondary schools has been investigated by an interdisciplinary research team. This team worked from the African Regional Health Education Center, University of Ibadan, and was sponsored by the Social and Economic Working Group of the *WHO/UNDP/World Bank Special Programme on Research and Training in Tropical Diseases.

The site of the investigation was a town of 8,100 persons in western Nigeria. The introduction recapitulates the well known relationship between economic loss and dracunculiasis in agricultural workers. An analogous relationship is then proposed to establish the further economic desirability of preventing the disease in school children.

The body of the essay consists of evidence and reasoning to support the proposal, and depends for effect mainly on the inhibiting effects of the disease on attendance, and on the learning and developmental potential of school children. The method of the study, its procedure, and other considerations--such as the coincidental seasonal activity of the disease and the school term--are also described and explained.

Guiguemde, T.R., et al. 1983 La dracunculose, un probleme de sante publique? Medicine d'Afrique Noire Vol 30, No 10

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The full effect of dracunculiasis on the inhabitants of the OCCGE** States has not been established. There is insufficient epidemiological information about the local manifestations of the disease; the amount of illness it causes is unknown; the social and economic consequences have not been measured. Recommendations for improving information collection are listed.

Hopkins, D.R. 1983 When the water decade ends, will there still be guinea worm? Africa Health Vol 6, No 1, 3

The epidemiology and clinical aspects of dracunculiasis are described; they establish the relevance of established methods of treatment and prevention. The limitations and the capabilities of these methods are listed, as are economic and social penalties of neglect.

The geographic range of the malady's endemicity is given; previous successful eradication campaigns are recalled; and India's current ef-

*World Health Organization / United Nations Development Program

**L'Organisation de Coordination et Cooperation pour la Lutte Contre Les Grandes Endemies

fort is mentioned. The opportunity to eliminate this disease is argued, and the inattention that has frustrated attempts to cope with the situation is constructively criticised.

Hopkins, D.R.- 1983 Dracunculiasis: an eradicable scourge
Epidemiologic Reviews, Vol 5, 208-219

The advent of the International Drinking Water Supply and Sanitation Decade (1981-1990) has stimulated interest in the eradication of this disease because of commonality of objectives. Introduced through its history, defined by descriptions of its clinical syndrome and its cycle of transmission and maintenance, the disease is then limned in terms of its epidemiology. This overview leads to a discussion of the efficacy of control measures, the methods of treatment, and the technical and economic feasibility of these remedies. The geographic range, the incidences in the affected regions, the seasonality of peak incidences, the attack rates in various social groups--all are explored, explained, and classified according to their value as avenues of control. Finally, the disease's susceptibility to eradication is compared to that of smallpox.

Kahn, A.H., et al. 1982 X-ray identification of parasitic infections in the western region of Saudi Arabia Annals of Tropical Medicine and Parasitology Vol 76, No 5, 499-505

Of 14,942 patients who attended King Abdulaziz University Hospital in Jeddah during a 15-month period and who were given x-ray examinations, 109 were represented by films that had recorded evidence of parasitic infection. In 63 such instances, the infective agents were identified as Dracunculus medinensis; in 19 such cases, as Schistosoma haematobium; and in 17 other cases, as Echinococcus granulosus.

Pacherie, L. 1983 Eradication of dracunculiasis should be a national objective. Panorama Du Medecin, Afrique (October 1983)

A short article recapitulates the findings of the June 1982 workshop under the auspices of the National Research Council in Washington*, Particular attention is given the potential for educating a populace regarding personal protection through special school-system programs for children.)

Pieron, R., et al. 1983 Therapeutic and economic aspects of dracunculiasis in a Parisian hospital. Semaine des Hopitaux de Paris Vol 59, No 35, 2547-64

Various aspects of cost are discussed: various kinds of expenses for treating 18 cases of dracunculiasis in a Paris hospital, the ratios of these expenses, and factors that affect the expenses. The mean duration of stays (15 to 90 days) in hospital was 38 days. The longer

*See "Guineaworm Wrap-Up # 2," Report on Washington Workshop on Dracunculiasis

stays were associated either with serious subcutaneous infections at sites of perforation, or with multiple or complex concurrent disease cases in the same patient.

Sharma, M.I.D. 1982 Safe water will defeat guinea worm disease. World Health Forum (Readers' Forum) Vol 4, 142

A correspondent's letter titled "Complexities of Guinea Worm Disease" is paraphrased:

(1) Piped-water in towns in which dracunculiasis is endemic does not flow continually, and it does not reach all citizens; (2) infection can be acquired in a neighboring town or village; (3) if treatment is not available, and if water supplies are susceptible to re-introduction of the infective agent, endemic levels of infection can be re-established in a locality that has previously been freed of the disease; (4) the behavioral, cultural, and mobility patterns of community members should be considered in planning eradication.

Then, the following points (inferred from, and attributed to, conclusions reached in a workshop) are commended as essential to control and eradication:

Use paramedical personnel to perform case-search operations that will identify places in which dracunculiasis cases have occurred during the past two years.

The etiologic agent is spread by persons who have the disease and who step into water sources to fill their vessels.

When actual and potential endemic areas are known, safe water supplies are either to be provided, and infective water supplies are to be either denied, converted into wells, or treated to kill the host Cyclops.

Cases of dracunculiasis must be treated, either as a medical relief measure, or (with occlusive bandages) to prevent spread from lesions, or both; and patients' stepping into water supplies must be discouraged.

The public must be educated in the epidemiology, the prevention, and the treatment of this disease.