

PRESENT STATUS AND PROSPECTS FOR USE OF B THUR-NG-ENSIS H14
IN ONCHOCERCIASIS CONTROL

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The spore-forming bacterium *Bacillus thuringiensis* H14 presents some of the characteristics required for use as a larvicide in onchocerciasis control: efficacy, stability, selectivity, very limited prospects for the development of a resistance and finally it is mass-producible.

This biocontrol agent is actually operationally used in the onchocerciasis control programme (OCP) for the control of larval populations of the *S. damnosum* complex multi-resistant to organophosphorus compounds. The formulation currently available shows certain limitations: a moderate level of efficacy, a short carry and a high viscosity which complicate spraying operations in the rivers. In practice its use is limited to the treatment of rivers of which discharge does not exceed 50 m³/s and is very costly in comparison with chemical larvicides.

New, more effective, formulations with suitable physical characteristics have been field tested but their industrial production still encounters some difficulties. When these formulations will be available, their application will no longer present major difficulties. Then it would be desirable to extend their use to most of the programme area during the dry season whereas rainy season treatments should be carried out with chemical larvicides. In these conditions B.t. H14 could compete favourably with conventional larvicides and its consumption could be maintained to an acceptable level. Furthermore, this treatment scheme should represent a significant decrease in the process of selection pressure by chemical insecticides as well as in the pressure on environment in very sensitive ecological situations.

O.R.S.T.O.M. Fonds Documentaire
N° : 24450

NUTRITIONAL STATUS OF RURAL PRE-SCHOOL CHILDREN --
ANTHROPOMETRIC AND CLINICAL OBSERVATIONS

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Five hundred rural children in the age group of 12 to 60 months were examined to assess their nutritional status in terms of physical anthropometry and clinical signs. The parental literacy, knowledge & beliefs about the child rearing practices, environmental and socio-economic status were also recorded to ascertain relationship of these factors with the occurrence of protein energy malnutrition.

The analysis of the data demonstrated that 47.6% had one or more abnormal clinical findings of deficiency states. Marasmus was observed in 5.2% of population studied and the maximum number of the children were in the age group of 12-23 months. These children were either exclusively breast fed or received very little weaning food, and also had frequent episodes of gastrointestinal infections and infestations. Frank kwashiorkor was recorded in 0.8% and hair changes in 13.2% children in the age group of 12-23 months. Anemia (32.4%), Vitamin A deficiency (25.4%) and Vitamin B complex deficiency (.32%) were other clinical features recorded. The deficiency of Vitamins increased with the advancing age.

The cross sectional study of these five hundred children demonstrated that mean weight, height and mid-arm circumference were significantly superior in males as compared to their female counterparts in all the age groups. However, the observed mean values for these parameters were significantly inferior to Harvard standards. Similarly, the observed mean skinfold thickness was also lower than the Hammond and Tanner standard at all age groups.

Assessment of nutritional status was best correlated with the interpretation of physical anthropometric criteria rather than the clinical signs of deficiency.

Further, the nutritional status of the preschool children were directly proportional to the literacy of the parents, knowledge about dietary requirements of the growing children, per capita income and family size.

The other details are discussed to get an insight of the ecology and precipitating factors leading to protein energy malnutrition in preschool age group.

CLINICAL PROFILE OF PATIENTS OF SNAKE BITE POISONING IN JAMMU (INDIA)

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Jammu region which is in sub-Himalayan range is anomalously infested with snake. Snake bite poisoning constituted 22.7% of 10920 Medical admissions during the period Jan. 1981 to Oct. 1983 at SMS Hospital Jammu (India).

Two hundred and ninety six cases with definite evidence of envenomation were studied. Sev 70.8% sought hospitalization 24 hours of bite and 47.14 had no first aid treatment (tourniquet or incision) before hospitalization. Out of the 134 snakes (45.24) identified, 117 were *Echis carinata*, 7 Russell Viper, Indian Cobra 7, and Krait in one case. Cobra bite cases presented with classical neurological manifestations and 4 died within 36 hours. Haemorrhagic manifestations dominated the clinical profile in other 289 cases. Out of which 228 developed frank systemic bleeding in the form of cutaneous and subcutaneous haematomas 166, Gastrointestinal bleeding 51, haematuria (gross) 135, microscopic 158, haemoptysis 36, blister 26, haemoperitoneum with aseptic peritonitis 7 and rare manifestation included gangrene finger and large haematoma of the tongue.

Out of 296 patients, 45 (15.2%) cases developed acute renal failure (ARF), 14 had non-oliguric ARF, 3 had nephritic range of proteinuria. 17 cases were managed by peritoneal dialysis and 7 of these required haemodialysis. Renal histology obtained by renal biopsy was possible in 27 patients and histological appearances were consistent with AN in all except 3 patients. Renal histology in other revealed mesangial proliferation glomerulonephritis two and crescentic glomerulonephritis.

12 cases with ARF died. Bronchopneumonia and septicemia, haemorrhagic shock and pulmonary oedema were the prime causes for mortality. Other 6 patients who died following snake bite poisoning were due to shock 3, cerebro-subarachnoid haemorrhage in 2, cardiac tamponade 1.

LEPROSY (HANSEN'S DISEASE) SURVEILLANCE IN ENGLAND AND WALES
Dr Paul R. Gully

Cases of leprosy (Hansen's Disease) in England and Wales are notified by the diagnosing physician, in confidence, to the local Medical Officer for Environmental Health and then to the national Public Health Laboratory Service, Communicable Disease Surveillance Centre. Notification became statutory in 1951. From 1951-1982 1187 leprosy patients were registered and 348 remained on the Register at the end of 1982. Reasons for removal from the Register were arrest of the disease in 443, 105 died and 262 left the country (29 were removed for other reasons). Two hundred and eighty-six of the cases on the Register are classified as quiescent and 50 cases as active (29 are BB, BL, LL).

The pattern of immigration into England and Wales is reflected in the racial and sexual characteristics of cases. Most of the cases originate from Asia (approximately 70%) and 70% of these are from the Indian sub-continent. Ellis (1) noted that patients treated in the West Midlands and coming direct from India originated predominantly from the Punjab (2). The Punjab is an area of low endemicity compared to the rest of India (2). Thirty percent of cases on the Register are from Africa and 9% from the Caribbean. The male/female ratio is almost 2:1 and at registration more than half of the cases are in the age group 15-34 years. The interval between arrival in the U.K. and diagnosis in the West Midlands series ranged from less than 1 year to 18 years and 22 of the 30 cases studied were classified tuberculoid (BT or TT).

No transmission of the disease has occurred within England and Wales, at least, since 1925 but continued surveillance of infectious or potentially infectious cases is important. If the pattern of immigration had been different the number of infectious cases in the country may have been higher. The place of immunological tests in identifying close contacts of infectious cases who may be at risk of developing clinical disease is under evaluation. The place of neonatal BCG which is given to U.K. born infants of Asian parents, must remain speculative.

(1) Ellis, C.J. Leprosy in Birmingham - a review. Postgrad. Med. J. 1983; 59: 652-654.

(2) Dhasendra. Leprosy. Bombay: Kothari, 1978.

A STUDY ON THE VIRULENCE OF ENTAMOEBIA HISTOLYTICA (SCHAUDINN, 1903) STOCKS FROM BAGHDAD IN GOLDEN HAMSTER WITH REFERENCE TO ISOENZYMES

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Eight stocks of *Entamoeba histolytica* were isolated *in vitro* on diphasic medium, two from acute amoebic dysentery, three from chronic intestinal amoebiasis and three from asymptomatic carriers. For the study of the virulence, intrahepatic inoculation in golden hamster was used. The isoenzymes of malate dehydrogenase of these *E. histolytica* stocks were studied by disc polyacrylamide electrophoresis.

All the *E. histolytica* stocks isolated from clinical cases were found highly virulent for the hamster liver, while the stocks isolated from asymptomatic carriers have low virulence. There was a positive correlation of the results obtained from the study of the virulence of *E. histolytica* stocks by intrahepatic inoculation in the hamster and the isoenzymes of malate dehydrogenase. The virulent stocks were found identical in their electrophoretic enzyme pattern and clearly distinguished from the asymptomatic carrier stocks.

MAKING HEALTH CARE WORK IN DEVELOPMENT PROJECTS

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As a result of a field experience of 28 years managing comprehensive health services of large industrial projects developed in remote areas of the Brazilian Amazonian Basin, some fundamental concepts about how to make health care work successfully, were recollected for discussion such as:

1. From the beginning the owner or the principal authority responsible for the industrial project should issue a clearly worded policy stating that the highest priority and importance should be given to the health program.
2. Health services expenses should be recognized as also investment that is meant to produce good returns in terms of human resources' safety, productivity and morale.
3. The health program should not be limited to individual medical care; it should be planned to cover broader fields of activities such as basic sanitation altogether with ecology preservation; food quality control and nutrition; occupational medicine and rehabilitation; community health education and all aspects of health promotion and preventive medicine, with special attention to tropical diseases.
4. Full authority and broad freedom of action to decide what to do and how to do it, must be entrusted to the man in charge in the field.
5. The professional staff should be carefully selected and trained to practice medicine as a wholly integrated team work.
6. Serious attempt should be done to recruit and training local professional and auxiliary personnel.
7. Efforts have to be done to develop good relationship and frequent exchange of information with good teaching and research centers.
8. Finally, any discrimination or medical attendance privilege benefiting staff people and detrimental to local unskilled labor and their families must be avoided in consideration to the sensitive human dignity of the humble people.

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ABSTRACT AND POSTER VOLUME

XI
INTERNATIONAL
CONGRESS

for

TROPICAL
MEDICINE
& MALARIA

CALGARY, CANADA
SEPTEMBER 16 - 22, 1984



B 24 444 a

B 24 457