

**Zeitschrift:** Acta Tropica  
**Herausgeber:** Schweizerisches Tropeninstitut (Basel)  
**Band:** 31 (1974)  
**Heft:** 4

**Artikel:** Miscellanea : Hydatid disease in India  
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**DOI:** <https://doi.org/10.5169/seals-311968>

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## Hydatid Disease in India

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Hydatid disease, caused by the development of one or more larvae of *Echinococcus granulosus* in some part of the human body manifesting itself as a tumour is considered more a disease of temperate climates than of tropical areas. During the period 1951-68, 197 cases of hydatid disease were seen at the Christian Medical College & Hospital in Vellore, South India.

The distribution of cases as seen in Vellore is shown in Table 1.

Table 1

| Organ                 | No. of cases | Organ                 | No. of cases |
|-----------------------|--------------|-----------------------|--------------|
| Liver                 | 79           | Broad ligament        | 1            |
| Lungs                 | 84           | Peritoneum and Pleura | 6            |
| Brain and Spinal Cord | 7            | Breast                | 3            |
| Kidney                | 1            | Abdominal wall        | 6            |
| Orbit                 | 3            | Retro-peritoneum      | 2            |
| Spleen                | 2            | Caecum                | 1            |
| Neck                  | 1            | Leg                   | 1            |
|                       |              | Total                 | 197          |

Although the number of cases were 197 in that period of time, there seems to have been no sudden upsurge in the incidence of the disease. The disease seemed to take an endemic pattern as shown in Table 2.

Table 2

| Year | No. of cases | Year | No. of cases | Year | No. of cases |
|------|--------------|------|--------------|------|--------------|
| 1951 | 6            | 1957 | 11           | 1963 | 15           |
| 1952 | 9            | 1958 | 10           | 1964 | 6            |
| 1953 | 5            | 1959 | 10           | 1965 | 19           |
| 1954 | 10           | 1960 | 6            | 1966 | 11           |
| 1955 | 17           | 1961 | 14           | 1967 | 11           |
| 1956 | 14           | 1962 | 15           | 1968 | 8            |

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The sex distribution in our experience was not significant. Of the 197 patients, 106 were male compared to 91 female. The age of onset was again not a determinant as the disease was spread in all age groups, the youngest being 5 and the oldest 55 years.

The clinical diagnosis of hydatid disease in endemic areas does not seem to pose a problem as long as the possibility is borne in mind. In our study, of the 197 cases, 145 were diagnosed clinically on admission to hospital. In cases of soft cystic swellings in any part of the body, hydatid disease is considered in the differential diagnosis.

The remaining 52 cases were diagnosed operatively or following further investigation.

Casoni's test as a diagnostic tool is of little value. 58 proven cases of hydatid disease were subjected to Casoni's skin test and only 13 were positive. A failure rate of seventy-five percent minimizes the value of Casoni's test.

History of association with dogs was elicited in only 37 cases. These 37 patients had a dog as a pet or were in close contact with a known dog. In India where stray dogs are rampant it is not unusual for dogs to have close contact even with strangers. Petting and feeding a hungry stray dog is a cultural habit in most parts of India.

Unfortunately comparable figures for the incidence of hydatid disease in dogs are not available to make any comparison or to recommend preventive measures. In countries with high incidence of hydatid disease such as New Zealand or Australia, the first line of attack has been towards the elimination of the parasite from the dog population. The other important step is to prevent dogs from eating contaminated offal.

### **Distribution of cysts in the body**

The wide distribution of the cysts in the body confirm the fact that hydatid disease in the form of cystic tumours can develop in almost any part of the body (except bone) since the spread is essentially by blood stream, once the intestinal wall is crossed and the larvae enter the portal system.

From the Christian Medical College data, it is obvious that the majority of the cases were in the liver (40 %) and lungs (42 %). Both these are accounted for by the fact that the Vellore Hospital has become a well-known surgical reference centre both for general and thoracic surgical procedures.

### **Epidemiology**

Hydatid disease is cosmopolitan in distribution, but is most commonly found in countries where sheep-raising constitutes an important industry, and consequently there is a close relationship between man, sheep and dog.

This disease though not frequently met with in India is by no means uncommon. MAHADEVEN and BASHKARA MENON (12) reported 8 cases in 1933 from Madras and mentioned about several other cases one of them had seen in practice. In the same year, MAPLESTONE (13) (1933) added 4 cases from Calcutta. He also remarked after reviewing the recorded cases of hydatid infections that there is a strong probability that the incidence of hydatid disease is commoner in India than the records in medical literature indicate. SAMI (15) (1938) drew attention to the relatively high prevalence of hydatid disease in certain rural areas in Punjab. He also reported twenty-nine cases in the same year. CHOPRA, PASRICHA and LAL (5) 1939 have recorded forty cases. ANDERSON in 1945 reported 10 cases from Ahmednagar. GOVINDA REDDY and ANGULI (6) (1953) reported thirty-three cases they had collected in Madras between the years 1932 and 1952. Till recently

hydatid disease was considered uncommon in India. Reported cases, however, bear very little relation to the real incidence of the infection. Though dog is not such a close companion of man in India as in Europe or Australia, dog's excreta contaminating water, food, and vegetable whether directly or through the agency of flies suffice to pass the disease to man. BETTS and THOMAS (3) (1956) consider that hydatid disease is endemic in India. The occurrence in certain areas of a periodically heavy rate of canine infection as high as 33% – presents a reservoir of infection for man which is comparable with that seen in countries notorious for the disease. This suggests that human infection is possibly greater than previously supposed. In New Zealand, it is reported by WEBB (16) (1966–70) that asymptomatic hydatid infection rate was 102 per 100,000 population.

### Discussion

Hydatid disease is one of the minor causes of morbidity and mortality in India where communicable diseases still constitute a major threat to health. Infection with eggs of *Echinococcus granulosus* does not necessarily progress to symptoms.

At the Christian Medical College Hospital, Vellore, South India there were 197 proven cases of hydatid disease during the period of eighteen years from 1951 to 1968. It is obvious, therefore, that hydatid disease is certainly not uncommon in our country, more so in South India.

Control and eventual eradication of this disease (as well as Rabies) can be achieved only by controlling the number of unwanted and stray dogs. An alternate method is to treat the dog population on a mass scale with Arecolin hydro-loronide which has been proven to eliminate 95 percent of *echinococcus* from dogs.

Grass root preventive measures at the village level will need education of the individual and the community. This appears to me as one of the health promotional functions of the Primary Health Centres, which are gradually bringing to the people in rural India, curative and preventive medical care.

Hydatid disease will not find priority as a challenge to be met but is a problem to be reckoned with by those who plan, administer and deliver health care.

### Acknowledgement

Much of the stimulus for this work, I owe very much to Professor Irwin Samuel, M.D., Norman Institute of Pathology, Christian Medical College Hospital, Vellore (presently Professor of Pathology at Emperor Haile Selaisse University, Addis Ababa, Ethiopia).

My thanks are also due to my esteemed professor, Dr. Edward W. Gault, M.D., M.S., F.R.A.C.S., for guidance and valuable suggestions throughout the entire work.

I am indebted to Messrs. D. D. Gajaraj, R.R.L. (U.S.A.) and Reuban, B.A., both of Medical Records Department, Christian Medical College & Hospital, Vellore, for their assistance.

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