



ABSTRACTS OF RECENT CHINESE PUBLICATIONS ON HELMINTHIASES¹ (XX)

268. Lai, W. H. Orbit hydatid cyst: three case reports. Chinese Journal of Radiology, 1986, 20 (4): 246-247 (In Chinese)

The first case was a boy 12 years old, who was hospitalized for exophthalmia of the left eye with intermittent pain for one month; a history of trauma, or other ophthalmopathy, was excluded. Upon examination, the left bulbus oculi was observed to be prominently protruded with limitation of movement and weak sight (0.02). The Casoni test was positive. Plain film roentgenography showed enlargement of the left orbit (4.5 x 5.5 cm) with decrease of osteal density on the external portion; inside was a dense mass with an indistinct margin, except for the upper border. The width between the nasal septum and medial margin of the left orbit and that between the nasal septum and medial margin of the right orbit were 0.9 cm and 1.3 cm respectively. On the affected side, the sinus ethmoidalis was slightly shifted, and the cavity of the sinus maxillaris became narrower as a result of pressure. A hydatid cyst of 3 cm in diameter was removed upon surgery.

The other two cases were a boy of 16 and a girl of 8 years of age. Both had a history of exophthalmia with diminished sight of one eye for one year, and showed positive Casoni test reactions. Plain films revealed enlargement of the invaded orbit. Change in the width between the nasal septum and the parasitized orbit was also noted; involvement of the sinus ethmoidalis and the sinus maxillaris on the affected side was similar to that in the above-mentioned first case. The two children were operated on for excision of the cysts.

269. Sun, L. Q. & Li, F. G. A preliminary investigation on paragonimiasis in Yunyang District, Hubei Province. Journal of Parasitology and Parasitic Diseases, 1986, 4 (4): 304 (In Chinese)

Since 1981, an epidemiological investigation has been conducted in five counties of Yunyang District by examining crabs as well as wild and domestic animals and by skin testing the inhabitants in the areas.

Eight species of crabs were dissected and metacercariae were found in two species. In Sinopotamon denticulatus, a predominant species in the area, the infection rate was 44.4% and the infective density 77.8% per crab, while these values in S. shensiensis were 2% and 4% per crab respectively.

¹ The WHO/HELM series has been chosen as a vehicle for issuing abstracts or translations in English of papers on helminthiases published in the Chinese medical and scientific press as most of this material is not readily available to interested readers outside China. The numbering of the abstracts in this document is consecutive to that of the abstracts given in the previous WHO/HELM/87.25.

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Four species of snails in the area were examined. Cercariae were found in two species: Tricola humida and Tricola sp; with infection rates of 0.24% and 0.09% respectively.

The positive rate in the population, as assessed by the intradermal test, was 12.4%. Most people in the area had a history of eating uncooked crabs. The major clinical symptom was subcutaneous nodules caused by the migration of the parasites in the body.

270. Wang, W. D., Yu, Z. K., Ye, K. C., Pan, C. W., Zheng, M. M., Zhang, Z. Y., Jin, Y. C. & Liu, Q. Z. Observation on the distribution and animal infection of Euparagonimus cenocopiosus in southwest Zhejiang Province. Chinese Journal of Zoonoses, 1986, 2 (6): 33-35 (In Chinese)

After an investigation made in 1979-1984, it was found that Euparagonimus cenocopiosus was distributed in 8 out of 12 counties in southwest Zhejiang Province. Metacercariae of both Paragonimus westermani and Pagumogonimus skrjabini were detected in Sinopotamon in the same endemic area. Obvious differences in the habitat of Sinopotamon in Zhejiang Province could be seen between those harbouring Euparagonimus cenocopiosus and those harbouring Paragonimus westermani; the metacercariae of the three parasite species differed in shape, size, cyst wall, excretory sac and other characteristics.

Laboratory infection in mammals with Euparagonimus cenocopiosus metacercariae demonstrated that dog is a normal host and that the immature worms are infectious. The characteristics of the adult worms, immature worms and eggs of Euparagonimus cenocopiosus are different from those of Pagumogonimus skrjabini and Paragonimus westermani.

271. Gu, X. H. A survey of fresh water crabs the second intermediate hosts of lung flukes in Mianyang Prefecture. Chinese Journal of Zoonoses, 1986, 21 (4): 22-24 (In Chinese)

Since 1981 a survey of fresh water crabs, the second intermediate hosts of lung flukes, has been made in 10 counties of Mianyang Prefecture. Mianyang Prefecture, which is situated in the northwestern marginal region of Sichuan Basin, is a transitional area between the Oriental zone and the Palearctic zone, where four species belonging to the genus Sinopotamon were found to be the second intermediate host of lung flukes, namely, S. denticulatum denticulatum, S. davidi, S. kwanhsinensis, and S. yangtsekiense shanxiense, this last species being a newly confirmed intermediate host. Their natural infection rates were 16.9% (384/2276), 10.6% (59/556), 1.0% (2/207) and 5.1% (20/394) respectively. Cats and dogs were artificially infected with the metacercariae recovered from these four Sinopotamon species and the results revealed that infection was due to the parasite species Paragonimus skrjabini.

272. Feng, X. C., Zhang, K. R., Zhou, W. H., Chen, S. Z., Li, Z. J., Zhang, S. D. & Zhang, S. J. Two new snail species, Akiyoshia (Saganou) odonta Kang, sp. nov., and Tricola gredleri Kang, sp. nov., as the first intermediate hosts of lung flukes in Guzhang County. China Public Health, 1986, 5 (5): 38-39 (In Chinese)

Guzhang County of Hunan Province is a paragonimiasis endemic area, where Tricola sp., Bythinella sinensis Liu and Zhang and Akiyoshia sinensis have already been confirmed as the first intermediate hosts of Paragonimus. This paper reports the recent finding of another two snail species as first intermediate hosts of P. skrjabini. Based upon observations of their breeding places, parasite infection pattern and morphological features, they have been identified as Akiyoshia (Saganou) odonta Kang, sp. nov., and Tricola gredleri Kang, sp. nov.

273. Zhu, R. S., Miao, D. Q., Zhang, S. H., Zhou, R. & Zhang, Y. W. Establishment of two monoclonal antibody hybridoma cell lines against metabolic antigen from Paragonimus skrjabini. Shanghai Journal of Immunology, 1986, 6 (5): 292 (In Chinese)

Two different hybridoma cell lines D -3B and G -3C secreting monoclonal antibodies against metabolic antigens of Paragonimus skrjabini have been established by using SP2/0 myeloma cells and spleen cells of BALB/c mice immunized with metabolic antigens. Their immunoglobulin subclasses were IgG and IgM, respectively. The D -3B line only reacted with adult worm antigen of P. skrjabini. Its titre of induced ascites was near $1.65 \times 1\ 000\ 000$. The G -3C line, besides reacting with adult worm antigen of P. skrjabini, cross-reacted with adult and egg antigens of Schistosoma japonicum and adult antigen of Clonorchis sinensis. These two cell lines continued to secrete high antibody titres after *in vitro* culture for 2-3 months, freezing for storage and reconstitution. The D -3B line showed extremely high specificity to P. skrjabini metabolic antigens and could thus be used in the detection of P. skrjabini circulating antigen(s).

274. Chen, G. U., Guo, Y. F., Sha, R. J., Chen, H. & Lin, L. C. Counterimmunoelectrophoresis in detecting antibodies in experimental paragonimiasis. Chinese Journal of Zoonoses, 1986, 2 (3): 58 (In Chinese)

Counterimmunoelectrophoresis (CIEP) with adult Paragonimus westermani as antigen (1:800:1:3200) was used to detect antibodies in 26 dogs and 20 rabbits experimentally infected with Paragonimus westermani and revealed positive rates of 76.9% and 95.0% respectively, while 14.3% was reported in 17 normal dogs and 13.3% in 15 normal rabbits. CIEP using Clonorchis sinensis, Schistosoma japonicum and Fasciolopsis buski as antigen revealed cross-reaction rates of 15.4%, 13.6% and 18.2% in infected dogs and 31.8%, 37.5% and 42.3% in infected rabbits.

Free metacercariae of P. westermani were also used as antigen in CIEP for detecting antibodies in infected dogs; the positive rate of 80.8% was found to be parallel to that of 76.9% obtained with adult worm antigen.

During a monthly survey, an ascending trend of antibody titre could be traced with CIEP (adult worm antigen 1:400) in 17 infected rabbits with the peak being reached the fourth month after infection and a descending curve being observed thereafter till the antibody was no longer detectable on the eleventh month after infection.

275. Zhang, Y. Q., Hou, L. P., Gui, S. H., Wen, Y. & Xu, Z. B. The significance of dot-ELISA in diagnosis of paragonimiasis. Chinese Journal of Internal Medicine, 1986, 25 (11): 679-681 (In Chinese, with English abstract)

Sera of 94 active cases of paragonimiasis were tested with the dot-enzyme-linked immunosorbent assay (dot-ELISA) using a nitrocellulose filter as solid carrier. Of these cases, 93 showed a positive reaction and one a negative reaction. The control sera of 30 healthy individuals, 53 persons with parasitic diseases and 20 persons with other diseases all showed negative reactions except for two (1.9%), one from a person infected with Clonorchis sinensis and the other from a patient with pulmonary tuberculosis. In a comparison of dot-ELISA with plate-ELISA, no difference could be found in their sensitivity and specificity. Dot-ELISA has several advantages over plate-ELISA: its procedure is simpler and it does not need sophisticated equipment such as a photometer. This technique is suitable and available for clinical and field epidemiological studies.

276. Liu, J. B., Zhou, G. X., Luo, X. R., Zhu, Y. B., Jiang, M. X., Liu, C. H., Hong, C. G., Deng, J. K. & Ma, S. L. Clinical observation on praziquantel in treatment of paragonimiasis skrjabini. Chinese Journal of Pediatrics, 1986, 24 (6): 337-338 (In Chinese)

Praziquantel was used to treat 24 patients infected with Paragonimus skrjabini. A total dosage of 210 mg/kg body weight was given over 3 days in 3 doses per day. The

therapeutic results were evaluated at 3, 6 and 12 months after treatment. All the symptoms and signs of paragonimiasis disappeared. In addition, chest X-ray showed complete or nearly complete absorption at 6 months after treatment. Therefore, all 24 patients were considered completely cured. Side effects were mild and transient. It is suggested that praziquantel at a total dosage of 210 mg/kg is reasonable for paragonimiasis.

277. Gao, Y., Guo, N. G., Ma, G. T., Ma, G. C., Zhong, Y., Shi, W. Z., Jin, C. S., Zhang L. C., Du, S. L., Gao, Z. P., Liang, Q. G. & Shi, X. Y. Investigation of clonorchiasis sinensis in Funing County, Hubei Province. Chinese Journal of Epidemiology, 1986, 7 (5): 260 (In Chinese)

This investigation was carried out in the Shuitian Production Brigade of Funing County in 1978. Of 467 stool samples (covering 97.9% of the total population) examined, 42 were found to be positive. The infection rate was 9.0%. Egg counting revealed 26 cases of light infection, i.e. less than 1000 eggs per gram faeces (epg), 10 of moderate infection, i.e. 1000-5000 epg, and 6 of heavy infection, i.e. more than 5000 epg.

The infection rate was higher in the 27-56 year age-group, being 18.9% (36/190). Among the 42 positive cases, 23 were asymptomatic, and the rest had maldigestion, neurasthenia-like, hepatitis-like cholecystitis and hepatocirrhosis symptoms.

The majority of the local people had the habit of eating raw fish and shrimps, and infected fish were found in the irrigation ditches and rice fields.

Thirty-four infected persons were treated with Hetol (1,4 bis-trichloromethyl-benzol). Three months later, the negative conversion rate reached 97.0%.

278. Wang, X. Z. & Li, S. T. Detecting antibody to clonorchiasis by ELISA using plastic film as solid support and McAb against human IgG as conjugate. National Medical Journal of China, 1986, 66 (10): 623-624 (In Chinese)

A modified enzyme-linked immunosorbent assay (ELISA) technique, using a polyvinyl chloride (PVC) film coated with adult Clonorchis sinensis antigen and horseradish peroxidase-labelled monoclonal antibody (McAb) against human IgG as conjugate, was performed to detect antibody in 58 serum samples and 35 samples of dried blood on filter paper from parasitologically confirmed cases of clonorchiasis as well as 95 serum samples from healthy individuals. The numbers (and rates) of those positive were 56 (96.6%), 34 (97.1%) and 2 (2.1%) respectively, while the results obtained with the routine ELISA technique using a polystyrene plate coated with the same antigen and the same enzyme-labelled goat-antihuman IgG were 55 (94.9%), 34 (97.1%) and 3 (3.2%). These results show that the two techniques are quite similar in sensitivity and specificity. However, the modified ELISA has advantages such as: (1) The immune potency of McAb against human IgG is much higher than that of goat-antihuman IgG, so that the amount of enzyme conjugate could be reduced in practice by as much as 87.5%. (2) The reduction of nonspecific reactions would make the background paler in negative and control wells, hence positive reactions could be easily visualized. (3) The cost of PVC film supports is much less than that of polystyrene plates. (4) The wells of PVC film support are shallower and larger, hence samples of dried blood on filter paper can be put into the wells directly without the necessity of previous soaking in tubes. (5) Because of the enlarged surface of the well, more antigen adhered to the well, hence the amounts of antibody conjugated to antigen would be proportionally increased. (6) The space between wells is wider, so that the colour change could be readily visualized. This is especially suitable for field use without special facilities.

279. Zhao, Q. F., Liu, G. J., Wen, J. S., Xu, Z. J., Li, Y. J. & Wang, K. H. Study on the diagnosis of Fasciola hepatica by enzyme-linked antigen counterimmuno-electrophoresis. Chinese Journal of Zoonoses, 1986, 2 (6): 58-59 (In Chinese)

Adult worms of Fasciola hepatica were collected from naturally infected cats. After being homogenized, extracted, supersonically treated and ultracentrifuged or

chromatographed by Sephadex G100, the antigens were labelled with horseradish peroxidase (HRP) by the glutaraldehyde-one-step method. These labelled antigens were then counterimmunoelectrophorized with serum samples.

With chromatographed antigen, the serum positive rate was 97.1% in 98 patients while with ultracentrifuged antigen, it was 95.5% in 97 patients.

By using 1:20 F. hepatica HRP-labelled antigens, sera from 15 patients infected with Paragonimus skrjabini showed negative results, as well as sera from healthy individuals and 22 patients infected with Schistosoma japonicum. Moreover, with 1:20 P. skrjabini antigens labelled with HRP, the serum cross-positive rate was only 1.9% in 53 F. hepatica patients and with S. japonicum antigens also labelled with HRP there were no cross-positive sera in 35 F. hepatica patients.

280. Su, T. C., Chen, X. L. & Liao, R. Z. A scanning electron microscopic study on the parasite eggs from an ancient corpse buried in Chu Guo of the Warring States Period and excavated in Jiangling County, Hubei Province. Chinese Journal of Zoology, 1986, 32 (3): 296-297 (In Chinese)

Three species of parasite eggs, collected from an ancient female corpse in 1982, were identified as the eggs of Clonorchis sinensis, Trichuris trichiura and unfertilized eggs of Ascaris lumbricoides. Their morphology and ultrastructure were observed with the scanning electron microscope and were compared with those of eggs recently collected from human cases.

1. Clonorchis sinensis egg: it resembled a sunflower seed, had a light yellow-brown colour and was 30.08 x 16.73 μ in size. A marked operculum at the anterior pole and a thick "shoulder" close to the end could be seen. Many large and small cristae were detected in the pits of its surface.

2. Trichuris trichiura egg: it was bucket-like, had a deep yellow-brown colour, and neither of the terminal plugs was visible. It was slightly longer than the fresh specimens. Dense microgranular grains were distributed on the egg surface and villi-like fibres could be seen on the two sides.

3. Unfertilized Ascaris lumbricoides egg: it was of oval shape, had a dark brown-green colour and was 84.60 x 40.30 μ in size. Both ends of the egg were flat. It had reticular depressions and ridges on the surface.

281. Zhang, F. S., Yang, J. Z., Pan, X. Y., Jin, M. L. & Chen, J. Y. Investigation on the zoonotic parasites in Zhejiang Province. Chinese Journal of Zoonoses, 1986, 2 (4): 56-57 (In Chinese)

Investigation of the zoonotic parasites in 11 counties (cities) of Zhejiang Province was pursued in 1981-1982. Altogether 27 species of zoonotic helminths were listed including those previously reported: Schistosoma japonicum, Fasciola hepatica, F. gigantica, Clonorchis sinensis, Dicrocoelium dendriticum, Paragonimus westermani, Faciolopsis buski, Echinochasmus perfoliatus, Echinostoma revolutum, Spirometra mansoni, Dipylidium caninum, Taenia taeniaeformis, Diocotophyme renale, Macracanthorhynchus hirudinaceus, Thelazia callipaeda, Cysticercus cellulosae, C. tenuicollis, Echinococcus (Translator: species not mentioned), Coenurus cerebralis, Trichobilharzia paoi, Ornithobilharzia turkestanicum, Trichinella spiralis, Strongyloides stercoralis, Ancylostoma caninum, Gongylonema pulchrum, Ascaris suum, and Bunostomum phlebotomum.