PARAGONIMIASIS IN MANIPUR

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Summary

Objective: To determine the prevalence of paragonimiasis in Manipur using intradermal test and some of the epidemiological factors attributable to it.

Study Design: Random cross sectional study.

Patients: 3,467 individuals of both sexes aged 5 years and above were tested.

Intervention: Intradermal test with a saline extract of *P. westermani* in all. Skin positive reactors (234) and an equal number of negative reactors examined for symptoms and signs of disease. Seventy five dermal reactors and an equal number of non reactors were available for investigations of sputum and stool. Those whose sputa showed parasitic eggs were subjected to X-ray chest.

Main outcome measures: Difference of more than 5 mm between the antigen and control wheal diameters was taken as positive skin test.

Main results: The overall prevalence rate observed was 6.7%, proportion of positive reactors was 8.0% among crab eaters (234/2834). 533 non crab eaters were non reactors. The differences in the prevalence among males (9.6%) and females (4.6%) was significant ($P < 0.01$). Higher prevalence rates were found in age groups 15-45 years. Symptoms like cough, chest pain, and haemoptysis were significantly more frequent amongst reactors. Pragonimus eggs were seen in the sputum of four of 75 skin reactors, these four had a raised ESR of 20-59 mm fall in the first hour, eosinophilia of 500-1500/cmm and patchy opacities/cystic lesions in chest X-rays.

Conclusions: Intra dermal test is a good screening test for mass surveys of paragonimiasis. Paragonimiasis is widely distributed in Manipur. Ingestion of crabs has a significant correlation with seropositivity.

Comments:

Paragonimiasis (endemic haemoptysis) is a chronic infection of the lung caused by trematodes of the genus *Paragonimus*. The infection is acquired by ingestion of cysts or metacercariae through uncooked crabs or cray fish, the intermediate hosts. Clinically the disease is characterised by cough and haemoptysis. The eggs are passed in

sputum or faeces if swallowed.

The skin test in this study was of proven sensitivity. Cross reactions may occur with other distomes [1]. Use of a refined fractionated antigen may exclude such cross reactions. The skin test positivity does not indicate current infection. It may remain positive for years even after complete recovery. Spontaneous cure is known in light infections with death of worms in 5-6 years [2]. These factors might have been responsible for poor recovery rate (5.3%) of eggs.

The study has employed direct wet mounts and concentration techniques to look for eggs in sputum and stool. The best way to look for eggs in sputum is by concentrating it with 3% KOH for 10 minutes and centrifugation for 5 minutes at 200 rpm. Formalin-ether concentration technique can be applied to stool. Ziehl-Neelsen stain does not demonstrate eggs in sputum or stool and may destroy the eggs that are present [3]. It should be avoided if paragonimiasis is suspected.

The drug of choice for paragonimiasis is praziquantel [2] and four egg passers were treated with it. No follow up skin tests have been done in them.

The study has a relevance for Armed Forces in that troops stationed in and around Manipur may acquire local eating habits and contact paragonimiasis. Clinically and radiologically paragonimiasis may mimic tuberculosis. Therefore patients who present with cough, haemoptysis and give history of eating crabs/cray fish should be investigated for pulmonary paragonimiasis before initiating anti tubercular treatment.

REFERENCES

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