etate ion which is quite large, there is a possibility of strong electrostatic ion-ion interaction and therefore positive values of S_v are expected.

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EFFECT OF TRIMETHOPRIM IN TRICHINIASIS OF ALBINO RATS

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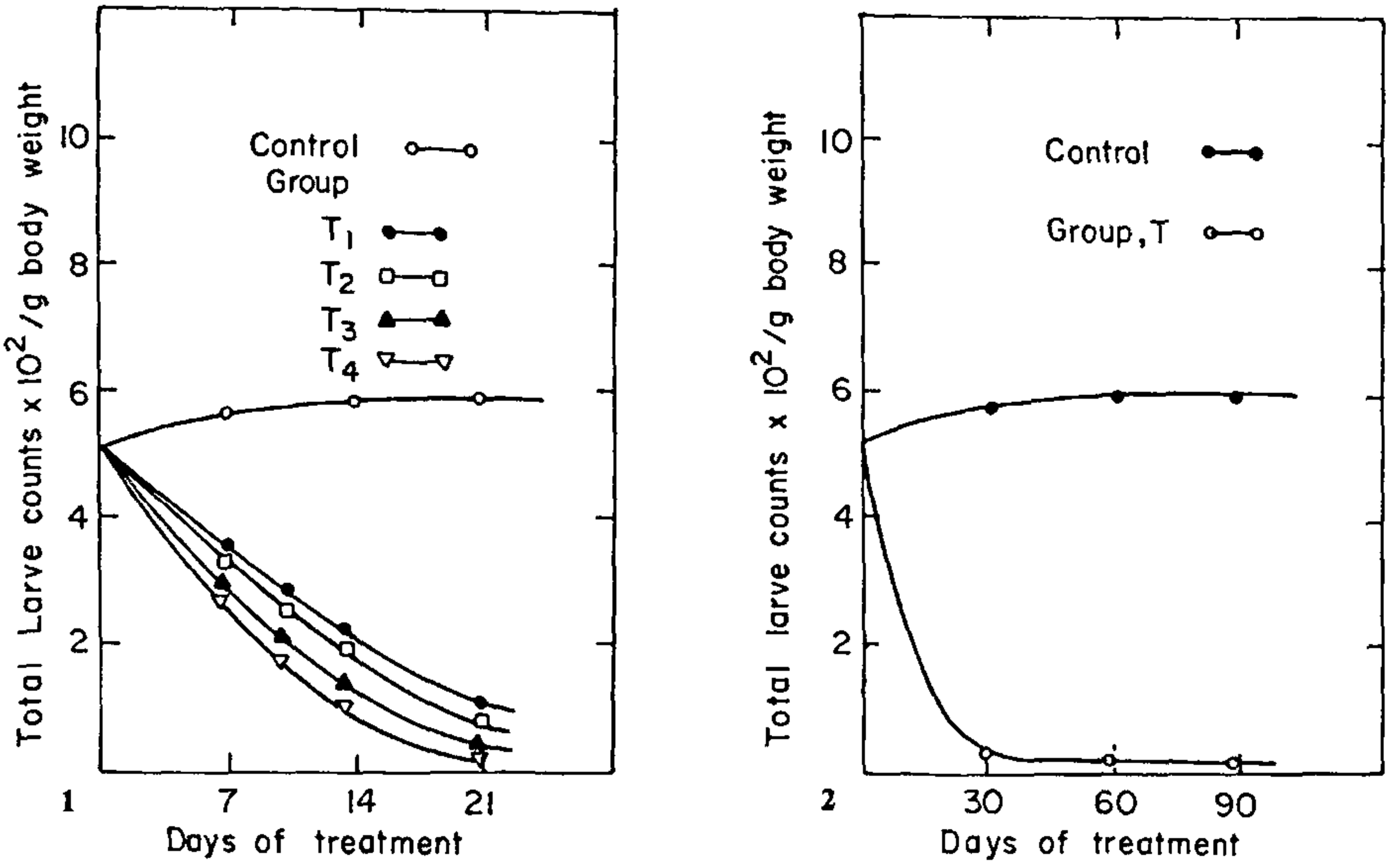
TRICHINIASIS has been recognised as one of the important meat borne helminthic zoonoses. A tentatively calculated 27 million cases of trichiniasis in the world, presents a serious challenge to meat hygienists[1]. Depending upon the severity of infection it may serve enough to cause haemorrhage, muscular pain, hypereosinophillia, thrombosis and restlessness. At present there is no proper therapeutic agent for the treatment of trichiniasis. Cortico-steriods and thiabendazole have been found helpful to some extent[2]. Trimethoprim (TMP), a well-established therapeutic agent was reported to serve well in the treatment of some parasitic infections[3, 4]. The present communication reports the effect of this drug against trichiniasis induced in albino rats.

Healthy adult male albino rats (laboratory inbred) were inoculated with *Trichinella spiralis* larvae with the help of hypodermic syringe. Larvae were collected from the diaphragmatic-muscle of the post-infected rats (maintained in our laboratory) following digestion method by hydrochloric acid and pepsin solution. After 21 days of post-infection the rats were completely infected, which were used throughout the study. The infected rats were divided into 7 groups of 12 animals in each. Each rat of T_1, T_2, T_3 and T_4 groups received TMP orally at a dose of 10, 20, 30 and 40 mg/kg body weight/day respectively. A group of 12 infected animals (maintained without drug) served as the corresponding control (C). Animals of each treated and control groups were sacrificed at weekly intervals and 4 at a time *i.e* four animals of each group were sacrificed at the end of 1st, 2nd and 3rd week. Another group (T) of 12 infected rats administered with TMP at a dose of 50 mg/kg body weight/day and sacrificed at monthly intervals and four at a time. The corresponding 12 infected control (C_T) animals were also maintained and sacrificed side by side following the same pattern. Muscle from the leg, intercostal region neck, tongue and diaphragm were collected from each rat and examined for trichinae larvae following digestion method.

Digestion method: The collected muscles were weighed, cut into small pieces and suspended in 1 litre of distilled water containing 10 g pepsin and 5 ml of concentrated hydrochloric acid. The solution was incubated at 37°C and stirred with a mechanical stirrer for 3 hr. At that time muscles were digested, larvae separated from the muscle and deposited. The sediment was caught on a fine muslin screen and the thoroughly washed larvae were taken into saline (0.85%) and counted.

The results showed that TMP at all dose levels progressively reduced the total counts at the early days of the drug treatment but later the intensity of reduction was very slow (figure 1). Although TMP was effective to some extent against the parasitic infection it was found that the counts never became nil, even after 3 months of drug treatment in high doses (figure 2).

It is well established that TMP inhibits folate reductase, a specific enzyme for the conversion of folic acid to tetrahydrofolic acid, a causative agent of one carbon metabolism. Thus TMP indirectly inhibits the protein synthesis to some extent. Though the in-



Figures 1 & 2. 1. Effects of TMP on the reduction of the total counts, **2.** Effects of TMP on the total counts during 3 month of drug treatment.

hibitory effect of TMP against this specific enzyme is about 10,000 times more in prokaryotic system than eukariotic system, high doses may have some effect on the protein synthesis of eukariotic system[5]. It seems probable that the effectiveness of TMP against this parasitic infection may be due to the inhibition of protein synthesis of the parasitic larvae. Although TMP is effective against trichiniasis, it also caused growth retardation, anaemia and some alteration in the biochemical indicies of blood and liver of the host animals used in this study (data not presented). These adverse effects of TMP administration in high doses have been earlier reported[6].

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FIRST RECORD OF PALAEOZOIC FOSSILS FROM NAINITAL AREA, KUMAUN LESSER HIMALAYA

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PALAEOZOIC fish tooth, conodonts and bryozoan together with scolecodont fragments, foraminiferal