contents. Sufficient correlation of the two methods was obtained to deem the drop examination unnecessary. The efficacy of this procedure is supported by the fact that all doubtful tubes (absence of motile trophozoites) were subcultured.

Though a retest of the active compounds failed to reveal any significant variation of end points, the final practicality of the technique as described above will necessarily depend upon more extensive comparison with available *in vitro* methods. On the basis of the results noted thus far, however, the Phillips culture would seem to provide a feasible means for *in vitro* amebicidal screening, reserving a bacteria-amoeba culture for a control check of active compounds.

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Changes in the Total Circulating Eosinophile Count in Cyclotron Workers

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Several workers (1–5) have reported eosinophilia in response to x-ray and radium exposure. In 1942 Warren (*6*) reported the blood findings in 4 cyclotron workers who were exposed while sanding a dee. These workers demonstrated an initial fall in white cell count followed by a gradual rise. Of the 3 differential counts reported in this group, 2 had eosinophilia of 4% and 5%.

This report is based upon observation of 3 workers who received an indeterminate exposure while sanding the copper dees of a cyclotron. This exposure consisted of approximately 3 hr on each of 2 successive days. At the end of this period an exposure of 2,400 mr/hour was recorded at a distance of 12 in. from the surface being sanded. Although no pulmonary symptoms were noted following this exposure, inhalation of radioactive dust probably occurred, at least to some degree.

Red and white cell counts, hemoglobins, and differential leukocyte counts at bimonthly intervals prior to this exposure failed to reveal any significant variations. Repetition of these procedures at weekly intervals after exposure revealed only a transient leukopenia, which promptly returned to normal. Determination of the total circulating eosinophiles was made by the technique of Randolph (*7*). All blood counts were taken between 10:00 A. M. and 12:00 noon, without control of the antecedent diet or fluid intake.

Fig. 1 records the variations in the total number of circulating eosinophiles in the exposed and nonexposed personnel. It is evident that workers A and B, who were exposed during the sanding operation, demonstrated a marked increase in the number of total circulating eosinophiles over the nonexposed personnel. Worker C, who apparently had as much exposure as A and B, did not demonstrate the marked eosinophilia shown by the others. It should be noted

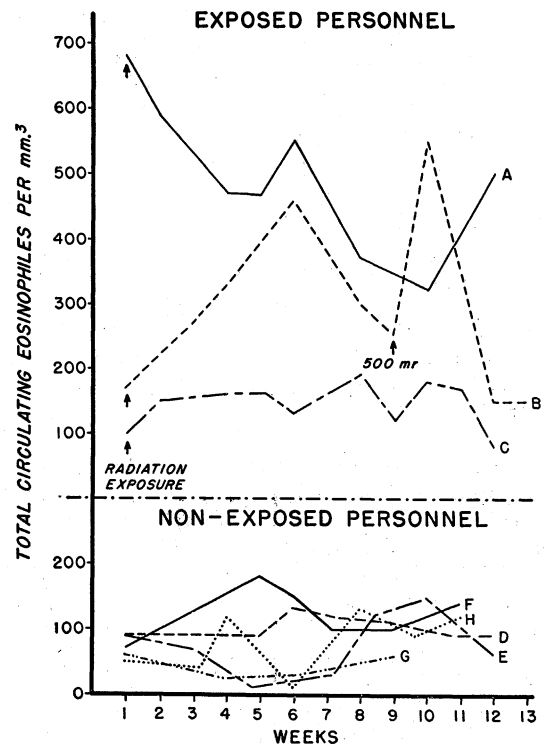

FIG. 1.

that worker A had a high eosinophile count immediately after exposure. Worker B evidenced a gradual increase and decrease in the total number of circulating eosinophiles until the ninth week, when in handling a hot target he received an estimated 500 mr of total-body irradiation. This was followed by a sharp rise in eosinophiles and an abrupt return to normal levels. Although total circulating eosinophile counts were not made prior to exposure, careful survey has failed to reveal any evidence of hypersensitivity or parasitic infestation, and all counts have been entirely normal in the 6 months since the last count recorded in Fig. 1.

It is suggested that the total circulating eosinophile count may be a useful indication of exposure to radiation in individuals employed in x-ray, cyclotron, and other laboratories with radiation hazards.

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