

substance does not appear to be proteinaceous in the types here described. These 2 types may be compared with the α cells of HAGADORN. Neurosecretory cells of the third type have deeply stained cytoplasm with methylgreen-pyronin, a central nucleus and small secretory granules evenly distributed with slight increase in number at the peripheral region. The secretory products seem to be proteinaceous (Figure 3). In the present section some of these cells appear to have retained connec-



Fig. 4. Neurosecretory cells, arrow pointing to the lucent secretory substance in the perikaryon. Methylgreen pyronin Y. $\times 220$.

tion with the ventral nerve cord by a thin sheet of cytoplasm. The secretion product remains in the homogeneous form throughout and the granules do not lose stainability at any time. Such cells may be compared with the β cells of HAGADORN. The extrusion of neurosecretory substance in the last type of cells is not clear. It may be that it occurs in an eccrine manner at the molecular level (KUROSUMI³).

In the brain of *H. granulosa*, neurosecretory cells have been placed into 2 categories (NAMBUDIRI and VIJAYAKRISHNAN⁴), on the basis of the presence or absence of cytoplasmic vacuoles. But it has not been indicated how long these vacuoles persist and what eventually happens to them. The present investigation, however, has not revealed cytoplasmic vacuoles in any marked abundance. It is quite likely that the lucent secretory materials in the perikaryon have been taken for vacuoles by the authors mentioned.

The presence of neurosecretory cells in the region of the ovisac could be investigated with interest, in view of their possible bearing on the reproductive physiology of the animal⁵.

Zusammenfassung. Nachweis von 3 Typen neurosekretorischer Zellen im Bauchmark der indischen Blutegel *Hirudinaria granulosa* und *Theromyzon rude*.

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³ K. KUROSUMI, Int. Rev. Cytol. 11, 1 (1961).

⁴ P. N. NAMBUDIRI and K. P. VIJAYAKRISHNAN, Curt. Sci. 27, 350 (1958).

⁵ I express my sincere gratitude to Dr. S. KESHAVA, University Professor and Head of the Department of Zoology, Patna University, Patna, for his kind encouragement and laboratory facilities provided.

On the Antitumour Activity of some Products of Wood-Decaying Fungi

In studies on the antitumour activity of some basidiomycetes, either extracts from the fruit bodies^{1,2}, or substances obtained by the submerged cultivation of these microorganisms on the liquid media³, were used as the source of active substances.

In the present short communication I should like to show some results of the experiments on the antitumour activity of the red solution described by SCHÄNĚL⁴. This red solution was dissolved in physiological solution and kept at a temperature of about -15°C . Black mice C57B1 to which the solid Ehrlich carcinoma was implanted were injected with this solution.

The pigment was injected s.c. in amounts of 0.2 ml every 3rd or 6th day during a 50-day period. As shown in Figure 1, the prolongation of life in the group of the cured mice was ascertained beyond any doubt.

The mean time of life in the group of the cured mice was 43.7 days, while in the group of the control mice it was 33.3 days. The 95% confidence interval was given by the limits 29.2–38 days in the control group and 36.7–52.1 days in the cured group. The difference between the time

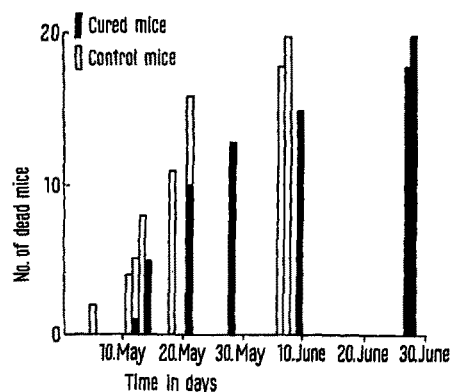


Fig. 1. Prolongation of life in the group of the cured mice.

¹ E. H. LUCAS, R. L. RINGLER, R. U. BYERRUM, J. A. STEVENS, D. A. CLARKE and C. C. STOCK, Antibiotica Chemother. 7, 1 (1957).

² S. PIASKOWSKI, Sylwan 10, 5 (1957).

³ F. J. GREGORY, E. M. HEALY, H. P. K. AGERSBERG JR. and G. H. WARREN, Mycologia 58, 80 (1966).

⁴ L. SCHÄNĚL, Experientia 22, 517 (1966).

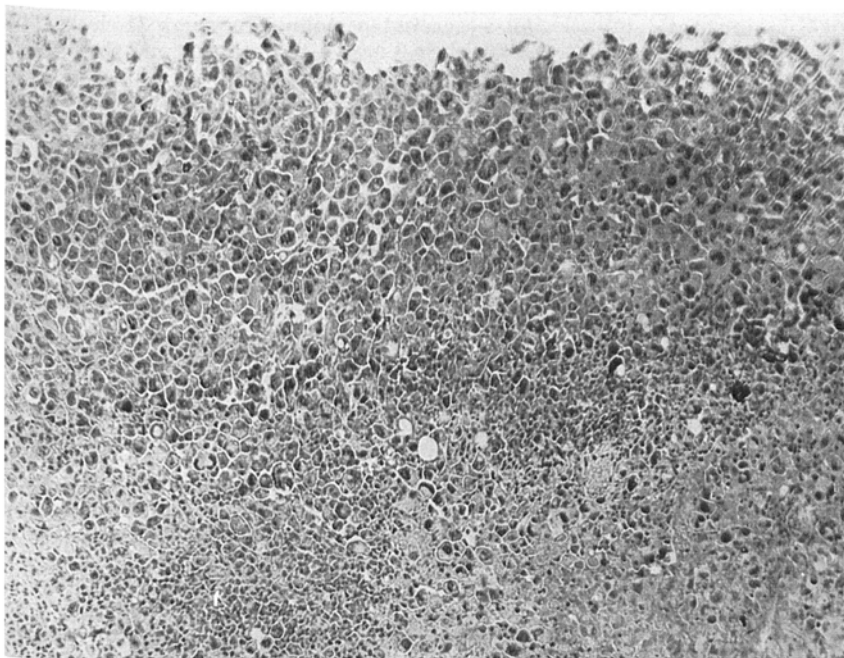


Fig. 2. Solid Ehrlich carcinoma at a control mice. $\times 180$ negative, $\times 2$ positive.

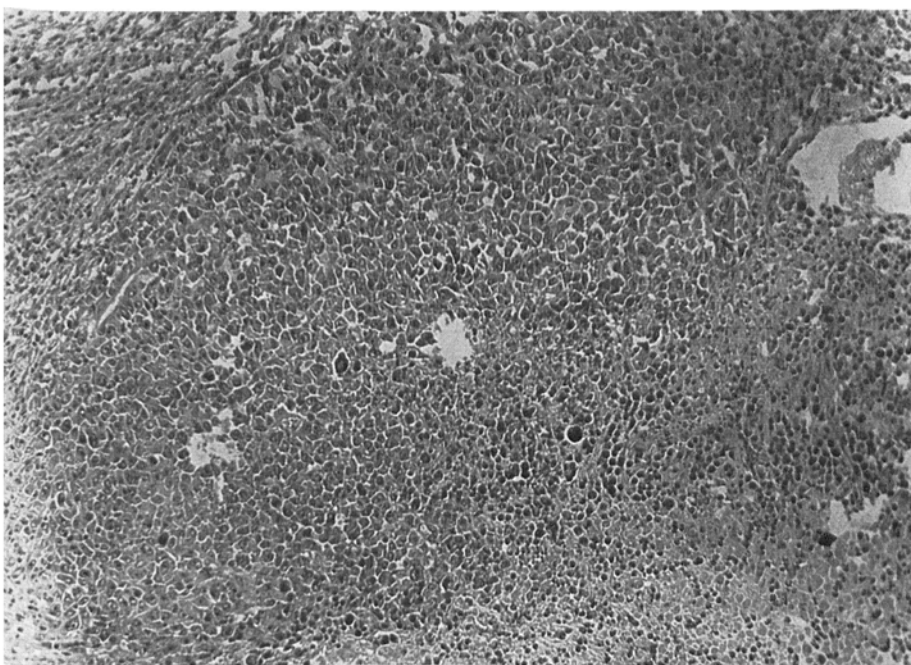


Fig. 3. Disappearance of carcinomatous character of the tumour turning to a pleiomorphic sarcoma $\times 180$ negative, $\times 2$ positive.

of life in the compared groups is statistically significant at the significance level $t = 2.60$. The histological controls of the organs did not show any changes as far as the toxicity of the preparation for these organs is concerned. On the periphery of the tumour, prolonged cells of the fibrose character appeared in the group of the cured mice, in which also a loss of a carcinomatose character took place and the pleiomorphose sarcoma appeared (Figures 2 and 3)⁵.

Zusammenfassung. Die Versuchsergebnisse über die antitumoröse Aktivität einiger holzerstörender Pilze (Lösung des roten Pigmentes nach SCHÁNĚL⁴) wurde beschrieben. Das Überleben von Mäusen mit implantiertem Ehrlich'schem Karzinom ist statistisch in der Gruppe der

behandelten Tiere in 5% gesichert. Histologisch ist es bei länger behandelten und überlebenden Tieren zum Verschwinden des karzinomatösen Charakters gekommen, und an seiner Stelle bildete sich ein pleiomorphöses Sarkom.

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