during the third week even when the fish were maintained in the polluted medium. Such recovery in ChE activity has also been observed earlier[9,10] in the vertibrates including the fish.

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OCCURRENCE OF EURYDENDROID CELLS IN THE METENCEPHALON OF *NOTOPTERUS CHITALA* (HAM)

H. R. GOEL
Zoology Research Laboratories, M. M. College, Modinagar 201 204, India.

THE metencephalon comprises two parts, the corpus cerebelli and valvula cerebelli. Each consists of the usual three layers, *viz.*, molecular, Purkinje and granular (figure 1). In *N. chitala*, besides the Purkinje cells, a few giant cells are also present in both corpus and valvula cerebelli. The Purkinje layer could thus be termed ganglionic layer.

The giant cells are large and few in number as compared to the Purkinje cells. They are mainly pear-shaped, some rounded, and are scattered among the Purkinje cells. These giant cells referred to as eurydendroid cells.

Each eurydendroid cell comprises a large axon and several short dendrites. The faintly visible axon enters the granular layer where it synapsis with the dendrites of the granular layer neurons. The dendrites of the eurydendroid cell synapse with those of the Purkinje cell and also with the axons of the neurons of molecular layer (figure 1).

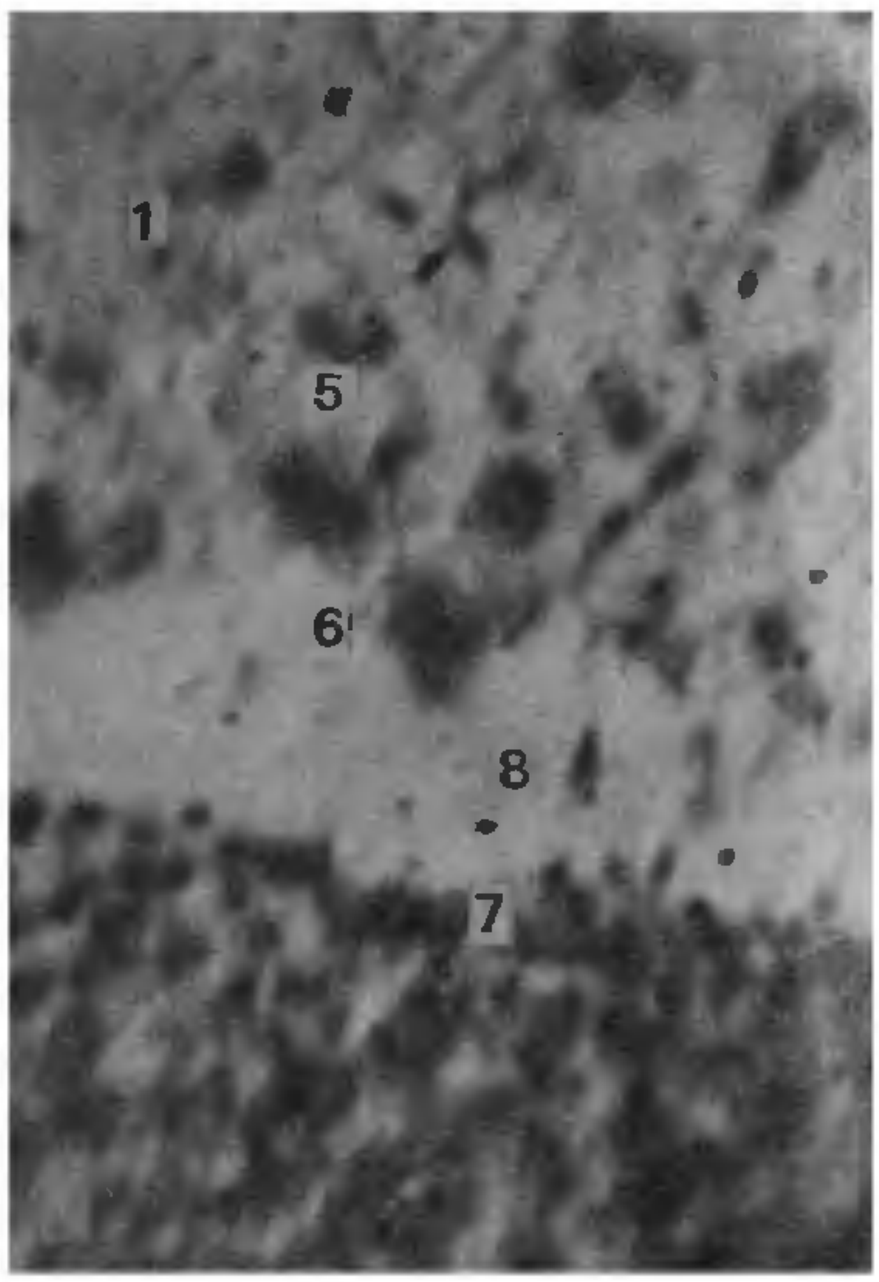

Figure 1. A part of valvula cerebelli of *N. Chitala* showing the synaptic formation in neurons × 1000 (1 = molecular layer, 5 = Purkinje cell, 6 = eurydendroid cell, 7 = neuron of the granular layer, 8 = synapse).

The axons of the granular neurons after traversing the ganglionic layer enter the molecular layer where they arrange as parallel fibres. Nieuwenhuys and others[1,2] reported that the axons of the granular neurons form T-shaped junctions in the molecular layer; these are absent in the present species. The molecular layer mainly comprises the fibres but a few scattered neurons are also present.

It is believed that the eurydendroid cells act as powerful transmitters whose axons and dendrites synapse with the Purkinje cells and the neurons of the granular and molecular layers. This forms the intercommunicating system for quick transmission of nerve impulses in the metencephalon.

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LONG-TERM EFFECTS OF BILATERAL VASECTOMY ON HAEMATOLOGICAL MEASURES IN LANGUR MONKEYS

N. K. LOHIYA AND S. N. TIWARI
Department of Zoology, University of Rajasthan, Jaipur 302 004, India.

THE adverse effect of vasectomy on health has been extensively investigated during the past decade and its long-term deleterious effects such as thrombosis and atherosclerosis[1-3] have been discussed. Sackler *et al*[4] suggested that vasectomy and vasoligation leads to leucocytosis in long-term vas occluded immature rats. The present investigation was undertaken to find out the long-term effects of bilateral vasectomy on haematological measures in langur monkeys.

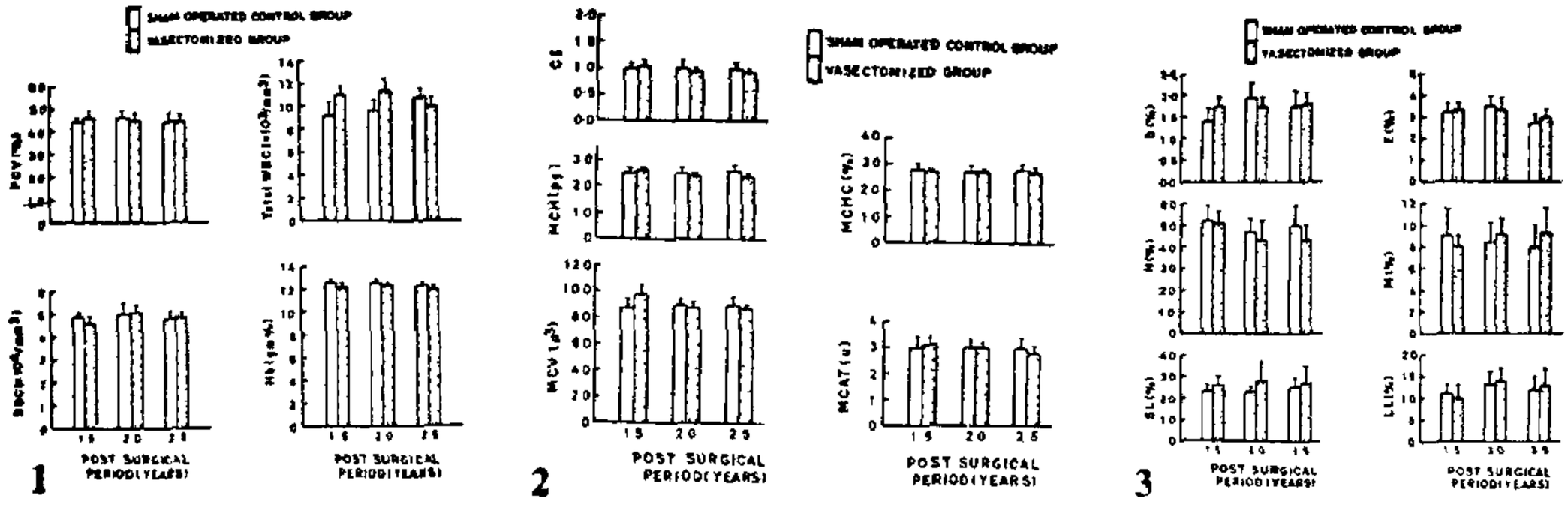
Adult male langurs weighing between 14 and 17 kg were quarantined for 2 months. The animals were housed individually in metallic cages and were fed on wheat chapaties, vegetables and soaked grams. Water was provided *ad libitum*. Animals were divided into two groups of six each for bilateral vasectomy and sham operations. Bilateral vasectomy was performed by the removal of 0.5–1 cm piece of each vas and double ligations. Sham operation exteriorized the vas but involved no cutting and ligations.

Post-surgical haematological analyses were done at 1.5, 2 and 2.5 year intervals both in vasectomized and sham-operated animals. Haemoglobin was estimated by Cyanmethemoglobin method[5] on Fisher's haemophotometer model 55. Total RBC and WBC were counted on improved neubar ruling haemocytometer. Packed cell volume (PCV)[6] was determined using capillary tubes of uniform diameter.

Standard haematological indices such as colour index (CI), mean corpuscular haemoglobin (MCH), mean corpuscular haemoglobin concentration (MCHC), mean corpuscular volume (MCV) and mean corpuscular average thickness (MCAT) were calculated and differential leucocyte counts were also made[7,8]. Student's *t* test was applied to statistical analysis.

No significant differences were observed in basic haematological measures (Hb RBC, total WBC and PCV) at 1.5, 2 and 2.5 year intervals when compared with sham-operated controls (figure 1). Standard haematological indices also did not show any statistical change at any of the intervals examined (figure 2). Differential leucocyte counts in vasectomized animals were found within the control range at all the intervals studied after surgery (figure 3).

Sackler *et al*[4] reported leucocytosis in 13 and 20 weeks vasectomized and vasoligated immature rats suggesting that vasectomy may cause inflammatory processes. Leucocytosis was associated with a significant and nonsignificant increase in lymphocytes and eosinophils respectively. No consistent changes were observed in neutrophil values. On the contrary Alexander *et al*[9] reported no change in total RBC and WBC, lymphocytes and polymorphonuclear counts in 4 and 8 years vasectomized rhesus monkeys suggesting that vasectomy is a safe method of male sterilization. Similarly Petitti *et al*[10] reported no changes in Hb, total WBC, PCV, MCH, MCHC and MCV levels in 10 or more years vasectomized men, which is in full agreement with the present findings in long-term vasectomized langur monkeys.



Figures 1–3. Long-term effects of vasectomy in langur monkeys. **1.** On basic haematological measures. **2.** On standard haematological indices. **3.** On differential leucocyte count.