Vacuolization of red [2] and white [3] blood cell precursors, and macrocytosis independent of folate or vitamin B12 deficiency [4, 5] are well-known effects on hemopoiesis in severe alcoholism. We recently observed both neutrophil and eosinophil metamyelo-cytes and granulocytes with ring-shaped nuclei (fig. 1) on bone marrow smears in 2 out of 5 patients with chronic abuse of alcohol. The incidence of such forms was less than 1 per thousand cells. The presence of cytoplasmic material within the nuclear holes allowed to distinctly differentiate this phenomenon from va-

References