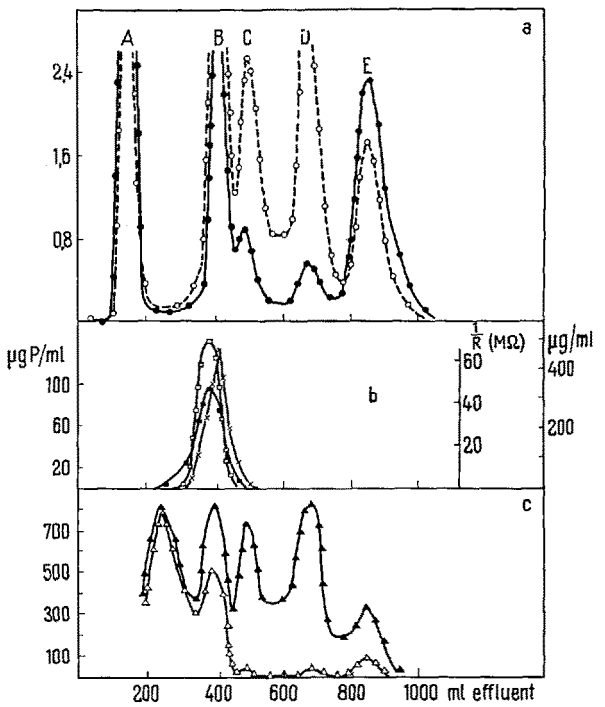
Fraction A contains high molecular materials, mainly proteins and s-RNA. The other fractions (B, C, D, E) are of low molecular nature; all pass through a dialysation membrane. The chemical analysis and the maximum of the UV-absorption of these fractions are shown in the Table. Fraction B includes substances containing sugars, aminosugars, sugar phosphates and some of the amino acids and low peptides. Amino acids also eluate between the peak A and B. Materials containing sugar are eluted from the column in the ascending part of peak B. The fractions C, D, E contain mainly peptides, nucleotides and nucleopeptides.



Elution diagram of rat liver extract on the column Sephadex G25. o——o O.D. at 260 mμ; •——• O.D. at 280 mμ; x——x conductivity; □——□ carbohydrate (Bial) as μg/ml; ■——■ phosphorus μg/ml; Δ——Δ ninhydrin colour; ▲——▲ ninhydrin colour after hydrolysis expressed as μg of leucin/ml.

Analysis of low molecular fractions of rat liver

Fraction		B	C	D	E
Ninhydrin colour[a]		157.5	14.9	42.5	117.0
Ninhydrin colour after hydrolysis		202.5	390.0	960.0	860.0
Phosphorus	%	12.45	0.184	0.914	0.38
Carbohydrate	%	33.7	0.768	0.557	0.526
Hexosamine after hydrolysis	%	0.586	—	—	—
Maximum UV-absorption	mμ	265	260	255	275

[a] Ninhydrin colour expressed as μg of leucin/mg

All low molecular fractions are heterogeneous in the electric field. Lyophilized fractions were separated by preparative electrophoresis on paper in 0.1 *M* ammonium acetate buffer pH 5.9. All chromatographic fractions contain compounds with UV-absorption and are ninhydrin positive[8].

Zusammenfassung. Es werden einige niedrigmolekulare Stoffe aus Rattenleberextrakt nach der Sephadex G25-Fraktionierung beschrieben. Die Lokalisierung von Zukker, Aminosäuren, Peptiden, Nukleopeptiden und verwandter Stoffe wurde im Elutionsdiagramm vorgenommen.

C. ALTANER

Department of Experimental Pathology, Cancer Research Institute, Bratislava (Czechoslovakia), August 6, 1962.

[8] The author wishes to thank Miss E. BENKOVIČOVÁ for technical assistance.

Spontaneous Leukaemia in a Sprague-Dawley Rat

Spontaneous leukaemia in rats is remarkably rare. Few reports are available since 1936 when WILENS and SPROUL observed the first cases[1–6]. A spontaneous myeloid chloroleukaemia is described here since (1) no incidence has been reported yet in Sprague–Dawley rats, and (2) the disease was accompanied by some intriguing renal tubular changes. The nature of these changes and their relation to the leukaemic process is not clear.

The rat was a 13-month untreated female of the above mentioned strain.

Hematology: WBC, 77000; RBC, 5.2 millions; Hgb, 13.3 g. The peripheral blood smear (Wright's stain) showed evidence of leukaemic invasion by immature cells of the granulocyte series (Figure 1). Two types were prominent: (1) large cells with large rounded nuclei and very little basophilic cytoplasm containing a small amount of azurophil granulation, and (2) large cells with rounded or polygonal nuclei and a greater amount of polychromatophil or acidophil cytoplasm containing numerous neutrophil granules. The differential count revealed that 70% of the white blood cells were Type 1 (promyelocyte) and Type 2 (myelocyte) cells with a number of atypical forms.

Significant autopsy findings included: *spleen*—enlarged to ten times normal size, solid, greyish coloured; *lymph nodes*—markedly enlarged, characteristic light green colour; and femoral *bone marrow*—similar green colour.

Microscopically the cellular infiltration was most conspicuous in the R.E. organs. The liver showed an extreme degree of infiltration of the periportal, perivascular spaces and sinusoids by immature myeloid elements together with considerable liver cell damage.

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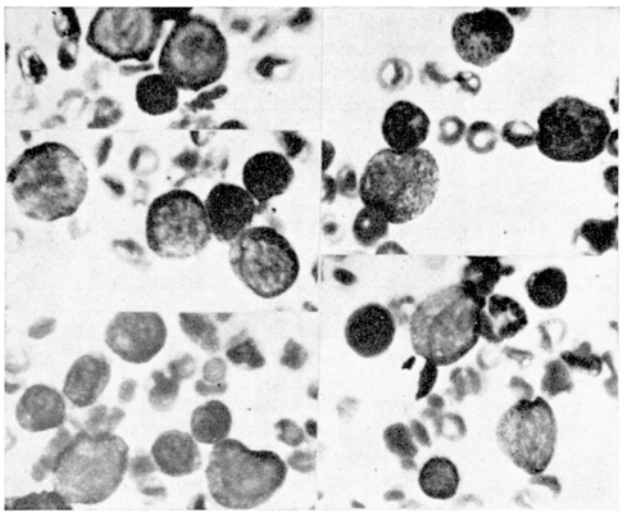

Fig. 1. Peripheral blood smear (Wright's stain).

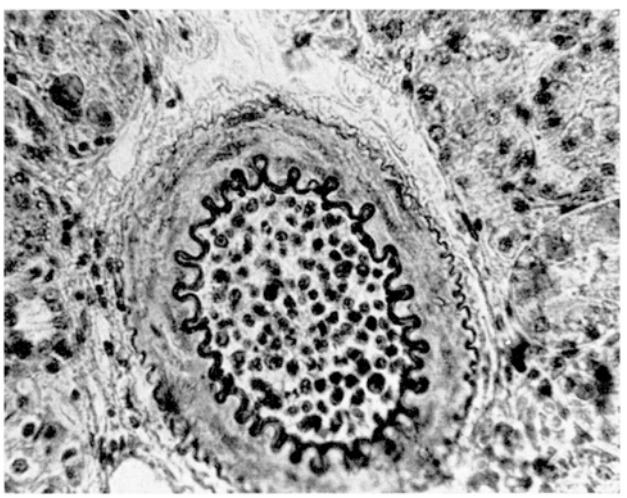

Fig. 2. Renal cortical artery (frozen, Oil red O-Hematoxylin, 310 ×).

Spleen and lymph nodes – follicular structure was almost completely obliterated and replaced, also infiltration of the perinodal fat was evident. Bone marrow – there was replacement of the normal cell population by early myeloid cells with few erythrogenic foci, and far less fat was present than in normal bone marrow.

In contrast with other organs the kidney did not show any substantial infiltration, however, most of the larger blood vessels of the cortex contained a great number of leukaemic cells in their lumens (Figure 2). In the outer

Fig. 3. Renal tubules (PAS, oil immersion).

zone of the cortex a pronounced vacuolar change with cytoplasmic droplet formation was seen (Figure 3). Sharply contoured homogeneous droplets and globules of various sizes (the largest exceeding the diameter of the tubule cell nucleus) appeared to be in a process of fusion and aggregation. Staining characteristics of the globules were as follows: eosinophilic, Oil red O negative; hemoglobin negative (Dunn-Thompson), strongly PAS positive, violet with Weigert fibrin stain and dark blue with Mallory's PTAH method.

The hematology and pathological picture in our chloroleukaemic rat were basically identical with those cases reported previously, also the green colour was mainly localized (as in HALL and KNOCKE's chloroleukaemic mouse) in the lymph nodes[7]. The peculiar tubular droplet change has been mentioned only briefly by two previous groups[1,3], who suspected a rather specific link between this tubular alteration and leukaemia in rats. In our case the physical and staining properties of the droplets indicated deposition of a substance of essentially protein character but the exact nature, origin and significance require further study.

Résumé. Description d'un cas de chloroleucémie myéloïde chez un rat de souche Sprague–Dawley, présentant quelques modifications peu communes des tubes renaux.

A. HAJDU

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Dimorphic Sperms of *Rhinopoma kinneari* (Chiroptera)

Many publications have appeared in the past on the dimorphism of the sperms in mammals. The morphological differences in the two populations of sperms have been found either in the size and the shape of the nuclei[1], or in the relative size differences of the centrally located heterochromosomes[2], or in the head lengths of the dimorphic sperms[3].

Stained and unstained preparations of the freshly ejected sperms of *Rhinopoma kinneari* (Rhinopomatidae,

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