

Drumsticks in the Leucocytes of Primates

In the course of the search for structures corresponding to the Barr body in various tissues, DAVIDSON et al.¹ observed in polymorphonucleated neutrophil leucocytes of woman a peculiar appendix which they called 'drumstick'; MITTWOCH² has recently analysed the frequency of this structure in normal women.

The relationship of this structure with sex chromatin has not been established as yet, although it has been demonstrated in the female sex only.

The presence of drumstick in female primate leucocytes has been demonstrated so far only in *Oedipomidas oedipus* (BEATH et al.³).

The leucocytes of some species of primates have been investigated and the following preliminary results have

been reached: (1) the drumstick is present only in the female individuals; (2) the relative frequencies of the structure is about the same as that observed in man (see Table); (3) the drumstick morphology (see Figure) varies within the different species (especially in the way of attachment to the nucleus); this variability appears at present not to be higher than that observed in man (KOSENOW⁴)⁵.

Drumstick in primate leucocytes

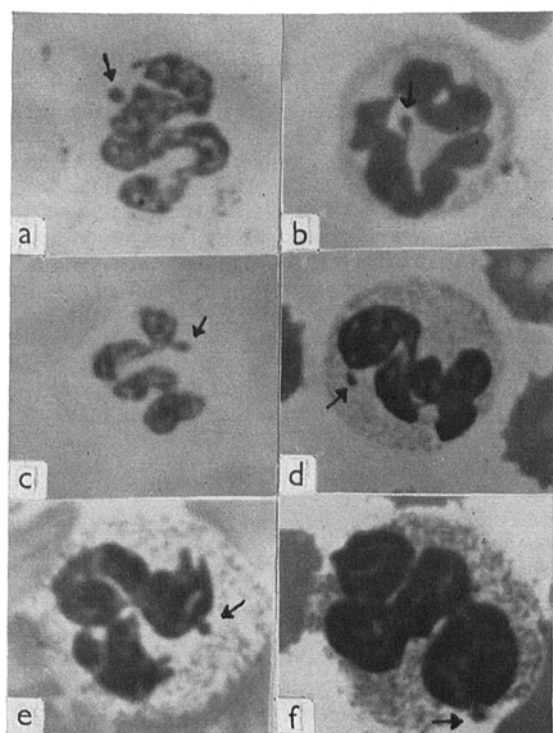
Species (♀)	No. of animals studied	%	References
<i>Lemur fulvus</i>	1	2.0 ^a	Present data
<i>Hapalemur griseus</i>	1	2.9 ^a	" "
<i>Ateles arachnoides</i>	1	2.3 ^a	" "
<i>Oedipomidas oedipus</i>	7	2.0	BEATH et al. ³
<i>Cebus apella</i>	1	3.4 ^a	Present data
<i>Macaca irus</i>	1	2.01 ^a	" "
<i>Macaca mulatta</i>	1	1.6 ^a	" "
<i>Macaca nemestrina</i>	1	2.3 ^a	" "
<i>Papio hamadryas</i>	1	2.0 ^a	" "
<i>Papio leucophaeus</i>	1	2.0 ^a	" "
<i>Cercopithecus monas</i>	1	2.6 ^a	" "
<i>Pongo pygmaeus</i>	1	3.0 ^a	" "
<i>Homo sapiens</i>	12	3.66 (1.58-7.21)	MITTWOCH ²

^a Percentages have been based on observations of 500 nuclei.

Riassunto. La frequenza del «drumstick» nei nuclei dei leucociti polimorfonucleati di diverse specie di Primati è stato riscontrato pressochè simile a quella dell'Uomo.

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Microphotograph of female monkey leucocytes ($\times 1000$). a, *Cebus apella*, b, *Cercopithecus mona*, c, *Papio leucophaeus*, d, *Papio hamadryas*, e and f, *Macaca irus*.

Rate of Depletion of Noradrenaline in some Peripheral Tissues Induced by a Reserpine Injection¹

Reserpine depletes the monoamine stores in the nervous system². In the brain, some systems of synaptic terminals containing noradrenaline (NA) are affected rapidly, while others are depleted only 6 to 8 h after the administration of the drug³. With the use of a histochemical fluorescence reaction^{4,5}, it has now been found that in the peripheral tissues still more marked differences in respect to the

time course of the depletion of the transmitter substances may exist.

Seven groups of rabbits (each with 3 animals) were given a single i.v. injection of reserpine and killed after various periods of time through air embolism (doses and times are found in the Tables). Tissue pieces (uterine horn, oviduct, ovary, kidney, submandibular gland, skin) were treated mainly according to the technique of FALCK⁵. During the histochemical treatment, the NA stored in the adrenergic nerves is converted to a strongly fluorescent 3,4-dihydroisoquinoline⁴. On account of this,

¹ W. M. DAVIDSON and D. R. SMITH, Brit. Med. J. 2, 6 (1954).

² U. MITTWOCH, Nature 201, 317 (1964).

³ M. M. BEATH and K. BENIRSCHKE, Cytologia 27, 1 (1961).

⁴ W. KOSENOW, Triangolo 2, 309 (1956).

⁵ The technical cooperation of Miss P. MONACI and Mr. V. PUEL has been very valuable. - The present research was partially carried out under a grant from the Italian National Council of Research (n.7854/F).