Table 1. General Properties of Ovarian Dermoid Cyst Fat compared with those of Human Sebum

	Dermoid cyst fat	Sebum
Melting point	33·8°	35–37°
Iodine No.	55·6	53–63
Acid No.	0·6	59–73
Cholesterol (total)	3·6 per cent	2·7–5·9 per cent
Total nitrogen	nil	0·42–0·49 „
Lipid phosphorus	nil	nil
Fatty acids (free)	0·6 per cent	22–32 per cent
Fatty acids (combined)	70·2 „	28–41 „
Unsaponifiable matter	27·3 „	27–36 „

of the hydrocarbon fraction, appear to be almost identical with those obtained from human sebum. The hydrocarbon fraction of the cyst fat, however, appeared to consist of practically pure squalene, with only a trace of *n*-paraffins, whereas the corresponding fraction from human sebum contained less than 50 per cent of squalene, the remainder consisting principally of *n*-paraffins, probably mainly of pentacosane.

Table 2. Comparison of the Fractions of the Unsaponifiable Matter of Dermoid Cyst Fat with those of Human Sebum

Fraction	Nature	Dermoid cyst fat (per cent)	Sebum (per cent)
I	Hydrocarbons	13·2	37–46
II	*n*-Alcohols and oxidized squalene	56·3	17–25
III	Cholesterol	11·8	14–19
IV	Unidentified sterol and oxidized squalene	7·8	4–11
V	Unidentified	7·8	6–13

The results obtained show that the dermoid cyst fat differs significantly from human sebum. The free fatty acids, so characteristic of human sebum, are almost completely absent from dermoid cyst fat. Only a trace of *n*-paraffin is present in the cyst fat, but a very much larger amount of *n*-alcohols (principally eicosanol) is present. In general, however, the differences between the two fats are quantitative rather than qualitative, and this suggests that the dermoid cyst fat may be sebum in which the process of formation has not gone to completion.

Further studies of this cyst fat are now being made in an effort to identify completely the constituents of the unsaponifiable matter, in the hope that this information will help the studies of human sebum at present in progress. Fuller details will be published elsewhere when these studies are complete.

I wish to thank Dr. Magnus Haines, of the Chelsea Hospital for Women, for kindly supplying the sample of ovarian dermoid cyst fat, and Dr. R. M. B. MacKenna and Prof. A. Wormall for their interest and help in this work.

V. R. Wheatley

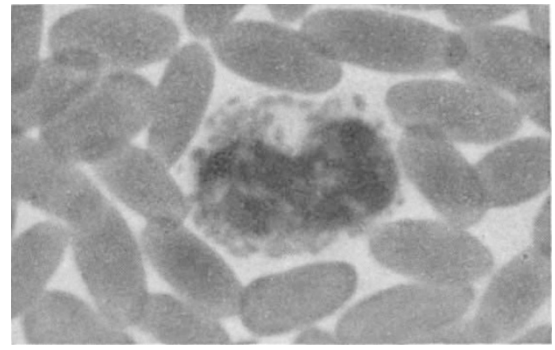
Departments of Biochemistry
and Dermatology,
Medical College of St. Bartholomew's Hospital,
London, E.C.1.
July 20.

[1] Sotnitchewsky, *Z. physiol. Chem.*, **4**, 345 (1880).
[2] Ameseder, F., *Z. physiol. Chem.*, **52**, 121 (1907). Behmel, G., *ibid.*, **208**, 62 (1932). Dimter, A., *ibid.*, **208**, 55 (1932); **270**, 247 (1941). Lieblein, V., *ibid.*, **21**, 285 (1895). Ludwig, E., *ibid.*, **23**, 38 (1897). von Zehnek, *ibid.*, **23**, 40 (1897).
[3] MacKenna, R. M. B., Wheatley, V. R., and Wormall, A., *J. Invest. Derm.*, **15**, 33 (1950).
[4] MacKenna, R. M. B., Wheatley, V. R., and Wormall, A., *Biochem. J.*, **48**, xxxviii (1951).

The Eosinophil Cell as seen in the Llama

The increasing clinical use of substances of the cortisone group raises many new questions in the field of hæmatology, and it is considered that observations made in the animal kingdom, particularly in regard to the aspect and behaviour of the eosinophil cell, should help towards a greater understanding of the physiology of this cell in mammals, and therefore in the human being, and perhaps also of the problems arising in therapeutic practice.

Wishing to confirm my observations of the eosinophil cell, as seen in the camel[1], by making further investigations on an animal of the same family, I obtained, with the generous co-operation of the Zoological Gardens, London, some blood slides from the llama. The slides were stained with May–Grunwald–Giemsa, and it was expected that the red blood corpuscles would be elliptical as in the camel. Instead, however, the corpuscles were found to be much more elongated than in the camel, the length varying considerably, some red blood corpuscles being up to twice the length of others. Moreover, the granules of the eosinophil cells were also elongated, some actually appearing to be more like rods.



Peripheral blood from the llama showing the granules of the eosinophil cell, some being very elongated and rod-like. Notice in the background the different sizes of the red blood corpuscles

The llama, therefore, confirms what appears to be a rule in the eosinophils of mammals, namely, that the characteristics of the eosinophil granules bear a definite relationship to the characteristics of the red blood corpuscles in the same mammal, particularly in shape. Cases of ovalocytosis in human beings show this same relationship very clearly. This further confirmation, afforded by investigation of the llama's blood, gives added weight to my interpretation of the physiological function of the eosinophil cell as a precursor of red blood corpuscles. It should be possible to watch the cycle of red blood corpuscle secretion in the spleen of the llama with a series of eosinophil cells showing, in their cytoplasm, the growth of granules to the size of fully developed red blood corpuscles, before being shed into the blood circulation, in the same way as this has been observed in a thyroid hæmorrhagic cyst in human beings, and in the spleen of the camel.

F. Duran-Jorda
Manchester Babies' and Children's Hospital
Management Committee,
Booth Hall Hospital,
Manchester 9.
July 13.

[1] Duran-Jorda, F., *Lancet*, 451 (August 18, 1948); *Nature*, **165**, 280 (1950).