Table 2. Osmotic Resistance of Red Blood Cells

Line	Beginning of hæmolysis (sodium chloride, per cent)	End of hæmolysis (sodium chloride, per cent)
C	0·495–0·480	0·300–0·285
W	0·435–0·420	0·300–0·285
Values quoted by Sturkie (ref. 7)	between 0·47 and 0·40	0·28

higher concentrations of saline than do those of the *W* line.

Figures based on visual assessments of the beginning and end of hæmolysis are given in Table 2. The proportions of hæmoglobin in solution at different concentrations of saline were also estimated using a 'Unicam' spectrophotometer set at 540 mμ. Expressed as a percentage of the amount released by distilled water, these are shown in Fig. 1.

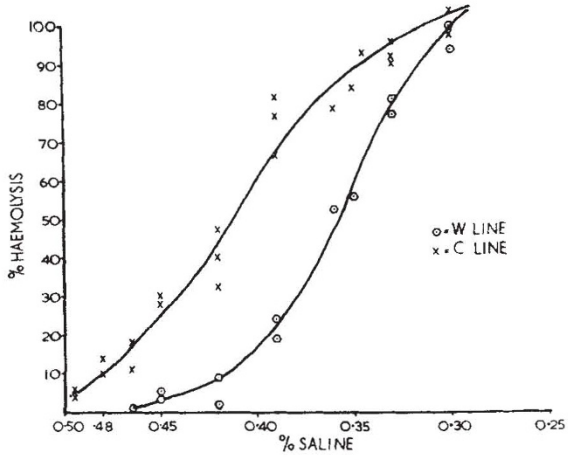

Fig. 1. Osmotic fragility curves

Diminished osmotic resistance is frequently indicative of lowered resistance to mechanical damage, leading to a reduction in the average life-span of the cells. This possibility is now under investigation as is the mode of inheritance of the condition.

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PATHOLOGY

Alkaline Phosphatase in the Meninges and in Meningiomas

Little is known about the factors which influence cartilaginous and bony metaplasia in tumours apart from the presence of calcified debris and mucinous infiltration in the stroma of these tumours. Willis[1] discusses the association of frequent bony metaplasia in carcinomas of the large intestine, and suggests that this may be associated with the alkaline phosphatase content of these tumours. He furthermore suggests that studies of phosphatases and other enzymes should be undertaken in tumours which show a tendency to bony metaplasia. The presence of an alkaline phosphatase in the 'fibroblasts' of fibrous dysplasia[2,3] and in the so-called fibrocytes of ossifying fibromas[3] certainly lends support to the ossifying properties of this enzyme in certain tumours.

In view of the frequency of metaplastic bone formation in the dura mater, especially in the region of the falx cerebri and the high incidence of calcification and ossification in certain types of meningiomas, it was decided to investigate this problem with regard to its possible association with alkaline phosphatase.

For this purpose two meningiomas were investigated histochemically. Morphologically one was classified as a meningothelial and the other as a psammomatous type of meningioma. In addition, segments of the arachnoid and dura mater in the vicinity of the superior sagittal sinus were obtained from three different autopsies shortly after death and examined histochemically.

Alkaline phosphatase was demonstrated according to the methods described by Pearse[4]. A strong alkaline phosphatase was observed in the arachnoidal cap cells of the arachnoidal granulations and arachnoid membrane, and also in the arachnoidal cell nests in the substance of the dura and arachnoidal membranes. In the meningothelial meningioma a strong enzyme reaction was elicited by all the tumour cells and in the psammomatous type, the enzyme was localized to the cells around the psammoma bodies.

The finding of an alkaline phosphatase in the tumours and their cells of origin may offer some explanation for the frequency of metaplastic ossification in these sites. Of more importance, however, is that it supplies the pathologist with a method by which the relative proportions of arachnoidal cells and fibroblasts can be readily assessed in the tumours.

Details concerning these findings and further experimental work will be published elsewhere. This work was supported by a grant from the Council for Scientific and Industrial Research.

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Isolation of a Cytopathogenic Agent from Skin Lesions of Cattle

Recently, we observed an outbreak of a disease in indigenous cattle at Gikongoro, Ruanda-Urundi, characterized by lesions on the teats and occasionally on other parts of the body and on the buccal mucosa. Material was obtained from nine cases, and with each sample transmission experiments were carried out in cattle. Following intradermal inoculation or scarification of the mucous membrane of the tongue, a definite reaction was noticed in five out of nine animals. This reaction was characterized by the development of necrotic lesions at the inoculation