

LETTERS TO THE EDITOR

Noradrenaline in Human Fœtal Adrenals and Organs of Zuckerkandl

SIR.—Extracts of the organs of Zuckerkandl prepared from infants aged less than 8 days have been shown to contain large quantities of noradrenaline which in absolute amount exceed those found in the adrenal glands of the same infants¹. Later studies² indicated that these organs continue to be the main source of pressor amines in the first few weeks of life. We have now examined a series of 31 fœtuses, and estimated the pressor amines present using biological and chromatographic methods³. In 17 cases collected between the fourth and sixth fœtal month, the average noradrenaline content of the adrenal glands and organs of Zuckerkandl were 2 $\mu\text{g.}$ and 7 $\mu\text{g.}$ respectively; adrenaline was not detected in either tissue. In 14 cases collected between the seventh and ninth fœtal month, the average noradrenaline content of the adrenal glands and organs of Zuckerkandl were 8 $\mu\text{g.}$ and 22 $\mu\text{g.}$ respectively; traces of adrenaline were detected only in the adrenal glands. Thus the organs of Zuckerkandl in the fœtus contain more pressor amines than do the adrenal glands, and it is possible that they function as accessory tissue to the autonomic nervous system.

Recently, Niemineva and Pekkarinen⁴ reported much higher values for the amine content of cases collected during the last three months of the intra-uterine period. However, their methods of extraction (trichloroacetic acid) and of assay (iodine oxidation reaction) are open to objection. It is known, for example, that erroneous results may be obtained when this colorimetric method is used for estimating the amine contents of trichloroacetic acid extracts of guinea-pig and rabbit adrenal glands and cortical extracts of human adult glands³. It is possible that a cortical material influences the colour, for all these latter tissues contain a large cortical component. The human fœtal adrenal gland also contains a large cortex so that colorimetric estimations (particularly after trichloroacetic acid extraction) may produce raised values for the total amine content.

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