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Relation of Weight of Placenta, Cord and Membranes to Weight of Infant in Normal Full-term and in Premature Deliveries.

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(Introduced by A. H. Morse.)

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The correlation between the weight of the infant and the weight of the placenta, cord and membranes has been studied in 4129 instances. The instances were distributed in 2 main classes, one class consisting of fetuses weighing under 1500 gm. and the other class of infants weighing 1500 gm. or over. In the latter case males and females were analyzed separately.

In each case a positive correlation was found (approximately $r = 0.5$). A good fit to linear regression was observed, particularly in the case of infants weighing 1500 gm. or more. A critical survey was made of previously reported work in this field.

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The Form of the Electrocardiogram. I. Intrinsicoid Electrocardiographic Deflections in Animals and Man.

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Wilson, Wishart, and Herrmann[1] have called attention to the laws which govern the flow of currents in solid conductors and to the fact that these laws determine the distribution of the potential differences produced by the heart beat within the body and at its surface, and have pointed out that leads in which one electrode is placed close to the heart and the other at a distance from it are semi-direct leads.

In experiments now in progress, it has been found that semi-intrinsic or intrinsicoid deflections may be obtained from the ventricles of the dog when the heart is covered by a pad of gauze, 1½ to 2 cm. thick, soaked in normal saline solution. Compared with

[1] Wilson, Wishart and Herrmann, PROC. SOC. EXP. BIOL. AND MED., 1926, xxiii, 276.

true intrinsic deflections, these deflections are smaller in amplitude and less steep when the recording instrument is used at the same sensitivity. Intrinsicoid deflections can also be obtained from the ventricular cavities by a blood contact. In the case of the auricles, intrinsicoid deflections cannot be obtained either through gauze of the thickness mentioned or from the auricular cavities. It is found that true intrinsic deflections from these chambers are rapidly degraded by increasing the size of the exploring electrode.

The difference between auricles and ventricles is due, so it is suggested, to the difference in the manner in which the excitation process spreads over the ventricular as compared with the auricular muscle.

When right bundle branch block is produced in dogs the intrinsicoid deflections obtained over the right ventricle are late; those obtained over the left ventricle are early. In left branch block the reverse is the case.

In man intrinsicoid deflections can be obtained by placing the exploring electrode upon the precordium. The few observations carried out thus far on patients with bundle branch block support the view expressed by Barker, Macleod, Alexander and Wilson[2] that the electrocardiograms at present attributed to right branch block are the result of left branch block.

Some observations made incidentally in the course of our experiments strongly suggest that so-called monophasic responses obtained in animals by placing one electrode upon an injured region of the cardiac surface and the other upon an uninjured region are the result, in so far as their monophasic character is concerned, of activity of the muscle immediately adjacent to the injured area, and not to the activity of the muscle beneath the electrode placed upon uninjured tissue. It is suggested that such curves are due to depolarization and repolarization of the injured tissues.

[2] Barker, Macleod, Alexander and Wilson, *Trans. Am. Assn. Am. Phys.*, 1929, xliv, 125.