in the adaptation of vinegar eels to heat stress, the results were readily predictable by the hormologosis hypothesis in a heretofore untested system.⁹

Acceptance of the direct action of antibiotics makes one ask, how? That is the question.—I am, etc.,

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Vasopressor Activity of Ergometrine

SIR,—Although it is perhaps rather late in the day, I would like to comment upon Dr. T. W. Baillie's paper (March 2, p. 585) and your leading article on this subject.

I agree in some measure with Dr. Baillie's suggestion, but I am surprised by the tone of your leader and by some of the contentions which Dr. Baillie makes. I have for some years assumed (and taught) that everyone realized that ergometrine intravenously administered frequently provokes a rise in blood-pressure. Surely it is, in part, because of a fear of a hypertensive reaction that caution is advocated in the administration of the drug to patients who are in incipient, or congestive, heart failure?^{1,2}

Dr. Baillie's method of analysis of his results displays, however, serious inadequacies. One must not, when considering cardiovascular responses, compare the data obtained from groups which include an unspecified number of cases of forceps delivery, emergency caesarean section, and elective caesarean section. Does this need more by way of illustration than mention of the supine hypotensive syndrome? Furthermore, the data summarized in Table VI of Dr. Baillie's paper, far from supporting his contention that alterations in circulating blood volume resulting from uterine contraction and retraction are not pertinent to his thesis, merely emphasize that the entire period from induction of anaesthesia to completion of delivery is characterized by a marked instability of blood-pressure. By the time delivery was accomplished—and before ergometrine was administered—in 12 of the 13 normotensive patients, and in four of the nine hypertensives, the level of the blood-pressure had risen well above that which had been recorded in the preoperative period. It is impossible to conclude, from the bare details offered in Table VI, how ergometrine influenced the pattern of blood-pressure change in these 22 patients.

I have summarized in the accompanying Table the pertinent details from a personal series of 181 caesarean sections which has been reported upon elsewhere.³ The standardized technique of anaesthesia was similar to that used by Dr. Baillie, except that succinylcholine was administered by continuous infusion, not by intermittent injection. Ergometrine (0.5 mg.) was squirted into the swiftly running infusion at the time of delivery. The

maternal blood-pressure was recorded (in units of 5 mm. Hg) at five-minute intervals throughout the operation.

My findings support Dr. Baillie's contention to some extent. In emergency cases a rise is seen more frequently in the group of hypertensive patients than in the normotensives (whether 5 mm. Hg or 10 mm. Hg is taken as the lower limit of significance), and the mean increase is greater in the group of hypertensives. However, a fall of blood-pressure may be seen in many cases, and the mean of the drops in pressure is greater than the mean of the rises. A fall was seen more frequently in the

Change of Blood-pressure Seen Immediately Following Delivery and the Intravenous Administration of Ergometrine (0.5 mm.) in a Series of Patients Undergoing Caesarean Section Conducted Under a Standardized Technique of Anaesthesia

Operation	Characteristic of Patient	Blood-pressure Rise			Blood-pressure Fall			No Change in Blood-pressure
		5 mm. Hg	10 mm. Hg	Mean	5 mm. Hg	10 mm. Hg	Mean	
Emergency section	Normotensive (total 74)	20 (27%)	13 (18%)	12/6	34 (46%)	30 (41%)	16/9	20
	Toxaemia or essential hypertension (total 41)	17 (41%)	13 (31%)	15/9	12 (29%)	9 (22%)	18/6	12
Elective section	Normotensive (total 56)	29 (52%)	24 (43%)	17/8	12 (21%)	11 (20%)	19/6	15
	Toxaemia or essential hypertension (total 10)	5 (50%)	5 (50%)	18/9	4 (40%)	4 (40%)	15/9	1

group of normotensives. A rise of blood-pressure is a more likely occurrence when the section is an elective procedure, and this phenomenon must be referable to the relief of pressure on the inferior vena cava following the emptying of the uterus. That this is not a constant occurrence is demonstrated by the fact that in many elective cases the pressure remained stable, or actually fell, following delivery.

I must make it plain that the data which I have presented refer only to the blood-pressure recordings immediately before and immediately after delivery and the injection of ergometrine (which occurred simultaneously). An attempt to include reference to the preoperative blood-pressure would be so formidable as to change this long-winded letter into an original paper.

I suggest, therefore, that the intravenous injection of ergometrine can result in a hypertensive episode; that the response is seen in the normotensive patient, but is seen more frequently amongst patients with toxaemia or hypertension; that a rise of pressure is seen more often at elective section than at any emergency section; that many other factors can contribute to changes in blood-pressure at the time of delivery; and that an extremely careful selection of patients is required to elucidate the importance of each of these factors.

I would be interested to read an analysis of Dr. Baillie's series made with reference to the mode of delivery.—I am, etc.,

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