When do cardiovascular parameters return to their preconception values?

To the Editors: We read with interest the article by Capeless and Clapp (Capeless EL, Clapp JF. When do cardiovascular parameters return to their preconception values? Am J Obstet Gynecol 1991;165:883-6). We would like to report our hemodynamic results from women studied before and after pregnancy.

Echocardiographic investigations were performed in 13 women before and throughout normal pregnancy.[1] Studies were repeated 6 months after delivery. Cardiac output was measured by cross-sectional and Doppler echocardiography at the aortic valve, and left ventricular dimensions, mass, and function were measured by M-mode echocardiography.[1] The results (mean ± SD) are shown in Table I. None of these differences were statistically significant (paired Student *t* test).

Although the results of Capeless and Clapp suggested that stroke volume and end-diastolic volume (calculated from left ventricular end-diastolic dimension) remained elevated relative to preconception values, at 6 and 12 weeks after delivery, our results suggest that by 24 weeks after delivery cardiac output and left ventricular dimensions, mass, and function have all returned to prepregnancy values. We agree with Capeless and Clapp that the interpretation of hemodynamic studies in which nonpregnant control data have been derived from early puerperal studies requires caution.

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REFERENCE

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Reply

To the Editors: We appreciate the comments of Robson and Dunlop. At the 6-month follow-up from their earlier study, the cardiovascular parameters measured had returned to preconception values. We are currently analyzing our own study group with 6 month and 1 year follow-up. Although we continue to observe an increase in cardiac output at 6 months (approximately 10%), our findings at 1 year agree with Robson and Dunlop in that cardiac output has returned to its preconception value. There may be some variability in the timing of the return of the cardiovascular system to its preconception baseline. Our study group represented a physically active and fit (maximum oxygen consumption 46.9 ml/kg, range 41.7 to 56.8 ml/kg) population with a low (65 beats/min) resting heart rate before pregnancy.

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Early detection of preeclampsia

To the Editors: After reviewing >100 clinical, biologic, and biochemical tests, Dekker and Sibai (Dekker GA, Sibai BM. Early detection of preeclampsia. Am J Obstet Gynecol 1991;165:160-72) failed to find a test that could predict early preeclampsia; they missed a vitally important test from 1960.[1] In that study 633 women between the sixteenth and twenty-eighth weeks of pregnancy were asked on a single occasion, "Do you feel as well now as before pregnancy?" Of those giving negative answers, 25% later had preeclampsia compared with 11% of those answering "Yes." Those whose symptoms continued to the next antenatal visit 1 month later had a 41% incidence of preeclampsia. The women did not complain lightly: 94% had at least two symptoms such as lethargy, nausea and vomiting, depression, backache, headache, and vertigo. Dekker and Sibai sought a predictive test that would identify a high-risk group and that was inexpensive, noninvasive, easy to carry out, and of high sensitivity. It seems that asking the patient how she is feeling at each antenatal visit is the predictive test required.

The recognition that the same symptoms present in the midtrimester were subsequently suffered by the same women in their premenstruums,[2] the early pre-

Table I. Echocardiographic results in 13 women before and after pregnancy

	Preconception	*6 mo post partum*
Cardiac output (L/min)	4.88 ± 0.39	5.00 ± 0.51
Stroke volume (ml)	65.8 ± 5.7	68.4 ± 6.0
Heart rate (beats/min)	74.6 ± 4.9	73.2 ± 5.5
Left ventricular end-diastolic dimension (cm)	4.49 ± 0.19	4.52 ± 0.17
Left ventricular end-systolic dimension (cm)	2.90 ± 0.23	2.88 ± 0.18
Left ventricular mass (gm)	120 ± 17	126 ± 23
Fractional shortening (%)	35.4 ± 1.5	36.2 ± 1.7

diction of preeclampsia by the presence of symptoms, and the 86% incidence of premenstrual syndrome after preeclampsia[2] that suggested the idea of treating symptoms in the midtrimester with progesterone injections.[3] This idea led to controlled trials, in which the incidence of preeclampsia was reduced to 3% when the women were treated with progesterone injections (62 women)[4] and progesterone suppositories (80 women)[5] compared with an 11% incidence of preeclampsia among controls (154 women). Today the concept of preeclampsia as a trophoblast-dependent process is accepted, the role of progesterone at the cytotrophoblast and syncytiotrophoblast junction is understood,[6] and progesterone is known to be an inhibitor of monoamine oxidase.[7]

Therefore is it not time to test the predictive value of symptoms in early pregnancy and the prophylactic value of progesterone given from midtrimester onward in a large, multicentered, randomized, double-blind, controlled trial?

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Reply

To the Editors: I thank Dalton for her interest in our manuscript. She suggests that asking the patient certain questions about well-being is a good predictor of subsequent preeclampsia. Some of these questions have to do with nausea, lethargy, vomiting, depression, headache, and vertigo. In 1960 she found that persistence of these symptoms at two different visits resulted in a 41% incidence of subsequent pregnancies. Unfortunately, almost all of these symptoms may be indicators of severe disease in women with established preeclampsia. Because some of these studies were published 30 to 40 years ago, it is conceivable that several of these women had established preeclampsia by the time they complained of these symptoms.

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Anesthesia for neonatal circumcision aids hazard detection

To the Editors: I'm proud to say that I am one of the obstetricians who enjoys doing circumcisions. I prefer using the Gomco unit—it is a little more tedious, but it gives a final result immediately with nothing to trouble the mother except routine hygiene.

I thought the procedure was relatively foolproof, but I discovered a hidden hazard. Before starting, I put in a dorsal penile nerve block with local infiltration of 1% licodaine for anesthesia at the 2 and 10 o'clock positions, where the junction of the shaft meets the perineal skin. With gentle traction on the penis, injection is made 1 cm cephalolateral from the base of the penile shaft. At this location the dorsal nerve bifurcates to either side. I also inject a small amount subcutaneously in the skin around the corona of the glans at 8, 12, and 4 o'clock. I use a 27-gauge needle with care to avoid small blood vessels. I avoid the frenulum area altogether. The infant often sleeps through the procedure.

I place two hemostats on the foreskin and then break up adhesions between the glans and the foreskin with a hemostat. I crush the foreskin at 12 o'clock to within 2 mm of the corona of the glans. I crush again on either side of the crush mark so that I can cut down the middle with absolutely no bleeding. I then place the bell inside the foreskin. This is the point of hazard.

I lay the base of the clamp down next to the scrotum. I pass the stem of the bell back through the hole in the base of the clamp. I then reach back through the hole in the base of the clamp from my side and grab the foreskin at 3 and 9 o'clock with two different hemostats. I pull the foreskin and the bell back through the base of the clamp. At this point in the procedure one infant began to cry. That this was unusual is part of the value of the block. If there is not undue traction or torsion of the penis and if the Gomco unit has not been rested on the testicles, the infant is usually not crying. I checked the application and discovered that the scrotal skin had inadvertently been pulled in with the bell and was being crushed as I tightened the vise on the Gomco clamp. I discovered the error and corrected it before much harm was done.

It would be a worthy addition to the procedure to check under the base of the clamp and make sure that the scrotum has not become entrapped or to drape the scrotum out of the field with the adhesive drape so that entrapment is not possible. The nerve block was also helpful in the discovery of the error, as well as in pain relief for the infant.

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Identification of varicella zoster virus infection

To the Editors: Although the article by Isada et al. (Isada NB, Paar DP, Johnson MP, Evans MI, Holzgreve W, Qureshi F, Straus SE. In utero diagnosis of congenital