formed at the time of laser surgery, and therefore the relative contributions of laser surgery and therapeutic amniocentesis are blurred.

What is most striking about the report is the extraordinary frequency of catastrophic outcomes that appear to have been caused by the laser surgery — namely, fetal death in utero within 24 hours. This occurred in 50 percent of pregnancies (21 of 42; if 3 pregnancies in which selective feticide was performed are excluded), with 15 donor fetuses, 2 recipient fetuses, and 4 fetuses whose identity as donors or recipients was unknown dying first and within 24 hours. This would indicate that from 36 percent to as many as 45 percent of donor fetuses died as a result of the laser surgery. This complication is certainly not reported with therapeutic amniocentesis. Why does it occur? The answer is really unknown, but the surgery and the ablation of all visible vessels in the area of the connecting membrane must result in unfavorable cardiovascular changes, especially in the donor twin. It is certainly possible that there is a net reversal of flow from the recipient to the previous donor, which would result in sudden fluid overload in a baby with chronic hypovolemia.

The Discussion section contains some troublesome recommendations. The authors state, “Furthermore, the data suggest that this treatment may be associated with a higher survival rate and a lower risk of cerebral palsy than treatment with serial drainage of amniotic fluid.” Their data do not support either claim. The overall outcome in this series shows a survival of 53 percent, as compared with survival approaching 66 to 79 percent in several series of therapeutic amniocentesis. Nor can the statement about the incidence of cerebral palsy be substantiated. Cerebral palsy has been documented in patients with the twin–twin transfusion syndrome. It has occurred consistently in donor twins and is probably related to hypovolemia that leads to cerebral ischemia. In this study, there were only 17 donor twins who survived and could be evaluated for cerebral palsy. That group is entirely too small to generate confidence that there is a net reversal of flow from the recipient to the previous donor, which would result in sudden fluid overload in a baby with chronic hypovolemia.

The authors reply:

To the Editor: Ville et al. claim that laser coagulation of placental vessels is an effective treatment for the twin–twin transfusion syndrome and is associated with a higher survival rate than serial amniocentesis. Perinatal survival in their series was only 53 percent (48 of 90 fetuses). These results are especially poor for two reasons. First, Ville et al. performed amniocentesis at the time of laser therapy. Second, the range in the size of the deepest vertical pockets of amniotic fluid before surgery (8 to 18 cm) indicated that some patients had polyhydramnios that was only mild, not severe as claimed. In contrast to the results of Ville et al., perinatal survival in recent series using aggressive serial amniocentesis was 74 to 83 percent, in accordance with our own experience. An exception was the 37 percent survival rate reported by the same group from King’s College Hospital. However, one third of those losses were spontaneous abortions within 48 hours of the procedure, and it is difficult to envisage why this risk would be averted by laser surgery, which necessarily involves concomitant amniocentesis.

We have recently reported controlled perfusion experiments in monochorial placentas showing that pregnancies with the twin–twin transfusion syndrome have significantly fewer anastomoses than those without the syndrome. In particular, the syndrome is characterized by a paucity of superficial anastomoses (usually one or none). Previous reports of laser coagulation, however, document ablation of 6 to 10 superficial vascular anastomoses. Ville et al. describe the identification of communicating vessels by color Doppler and the successful coagulation of all crossing vessels. Because the intertwin septum bears little relation to the vascular equator, we suggest that they are instead largely ablating normal chorionic-plate vessels. This would explain the necrosis of the full thickness of the placenta seen after laser surgery and the high rate of intrauterine death within 24 hours of the procedure (in 30 percent of pregnancies in the series of Ville et al.). Indeed, selective feticide is considered a “successful” therapy by some, in that it can lead to a resolution of the condition, although there can be only one survivor.

Although the report by Ville et al. represents a considerable technical achievement, we cannot agree that laser ablation as currently practiced is an effective treatment for the twin–twin transfusion syndrome.

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The authors reply:

To the Editor: In the period 1988 to 1992 we performed serial amniocentesis in 25 pregnant women who had severe twin–twin transfusion syndrome presenting with acute second-trimester polyhydramnios. Sixteen babies survived (32 percent), and four of the survivors (25 percent) had cerebral palsy. This high proportion of handicap prompted us to seek an alternative therapy. Since 1992 we have performed endoscopic laser coagulation in 75 pregnant women who met diagnostic criteria identical to those of the serial-amniocentesis group. In one case, the depth of amniotic fluid was only 8 cm, but at 15 weeks of gestation this constitutes severe polyhydramnios. In 54 of the pregnancies (72 percent) there was at