

LETTERS TO THE EDITOR

Pulmonary Vascular Disease in Pregnancy

In their paper on Outcome of Pulmonary Vascular Disease in Pregnancy: A Systemic Overview from 1978 through 1996, Dr. Weiss and colleagues kindly quoted me in the following sentence:

Although frequently unavoidable, caesarean section should be considered a risk (co)factor as it is not the safest route for delivery in parturients with pulmonary vascular disease. HEART (Oakley CM. Pregnancy and Congenital Heart Disease. Heart 1997;78:12-4.

Unfortunately, the quote misrepresents my views. In my editorial, I wrote:

Normal delivery has been favored for women with heart disease but good arguments can be made for more frequent use of caesarean delivery for some patients. In cyanosed women the effort of normal delivery causes increased right to left shunting and fetal hypoxaemia and caesarean section gives premature babies a better chance of survival. It safeguards mothers with little circulatory reserve by eliminating maternal physical effort and expediting the birth process.

Conclusions drawn from an overview of the literature can be misleading. The Eisenmenger patients delivered by caesarean section may have been more severe and therefore more cyanotic, unsuitable for induction of labor because they were more premature and at higher risk. Gleicher's paper published in 1979, also based on a literature review, is widely quoted (and probably acted on) and makes the same mistake.

The authors were perhaps fortunate in not having any personal experience with these patients (none are quoted).

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Better Patency With SK Than With tPA?

In the PERM retrospective study (1) of thrombolysis in acute MI, streptokinase was associated with highly significantly better patency rates than accelerated tPA for those treated within 3 h of symptom onset (TIMI grade 2 or 3 patency 90 min after starting thrombolytic therapy: SK 87% patency [152/175] vs. accelerated tPA 69% patency [107/155], $2P < 0.0001$). For patients treated later, (i.e., 4-6 h after pain onset), the numbers were smaller and there was no significant difference between SK and tPA (SK 59.4% [41/69] vs. tPA 69.5% [57/82], NS). Combining both time periods, therefore, SK appeared nonsignificantly better than accelerated tPA (SK 79% [193/244] vs. tPA 69% [164/237], NS).

If, however, instead of combining both time periods, the second period is subdivided even more finely into 4-5 h and 6 h, then the patency results for the few who were treated 6 h after pain onset

Table 1. Data Extracted from the Published Report of the PERM Retrospective Study (1)*

Hours From Pain Onset to Treatment	TIMI grade 2 or 3 90-min patency	
	SK	Accelerated tPA
1-3	152/175 (87%)	107/155 (69%)
4-5	39/56 (70%)	44/63 (70%)
6	2/13 (15%)	13/19 (68%)
Total	193/244 (79%)	164/237 (69%)

*Note: These numbers are obtained from Figure 1 in the report and match exactly the percentages cited in the summary, which is slightly discrepant with some of those cited in the text (1).

appeared to favor tPA (SK 2/13 vs. tPA 13/19: the results among these 13 SK-treated patients are the sole basis for the main claims [1,2] about the findings of this study). But, such numbers are too small to be reliably informative, and the results in 4-5 h do not corroborate them, indicating 70% patency with both treatments (SK 39/56 vs. tPA 44/63), which contradicts the editorial comment (2) on patency rates in this time period. The fitting of mathematical models may have concealed from authors (1) and commentators (2) alike the sparseness of the evidence from this study and the fact that, on average, the patency results favor SK, not tPA.

Oddly, the editorial comment (2) accompanying the study chose to report these results as if they were unfavorable to SK. Maybe that particular inversion of reality doesn't matter much: review (3) of stroke-free survival in all of the big randomized trials that have compared SK versus tPA (without restricting attention only to the GUSTO-1 study) found no significant difference in outcome among some 80,000 randomized patients, so the choice of thrombolytic agent is of little relevance to public health.

In other respects, however, that editorial comment was more dangerously misleading, for large randomized trials have in fact shown that, irrespective of the treatment regimen, thrombolytic therapy does significantly improve survival even for patients who present 6-12 h after pain onset, or who are hypotensive (4).

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