

pers. It is true that some papers reported several cases of sinusoidal fetal heart rate pattern. Since each author is more prone to publish the most representative tracing, we elected to review only cases with published tracings rather than count all case reports. Sanchez-Ramos and associates appear to have missed this important point.

Sanchez-Ramos and associates with their letter are adding to the already existing confusion on the subject in that they accept all reported cases as "true sinusoidal pattern." Because of the confusion and diverse interpretations by some authors, we decided first, to establish a definition of sinusoidal heart rate pattern; second, to review all published tracings based on that definition (see the original paper for the definition of sinusoidal heart rate pattern); and third, to have my co-author, Dr. Roger Freeman, review the tracings blindly, based on our agreed definition, without knowing the outcome of the patient whose tracing was being reviewed.

We would suggest to Sanchez-Ramos and associates that they develop a definition of sinusoidal fetal heart rate pattern that is acceptable to them and review all 188 cases they may have tracings on. Only through a defined description of the sinusoidal heart rate pattern and strict adherence to that definition can one appreciate the true clinical significance of the sinusoidal heart rate pattern.

Regarding their last point on antepartum or intrapartum sinusoidal fetal heart rate pattern, the same answer applies. With our definition, the sinusoidal heart rate pattern is an ominous sign, except when associated with alphaprodine administration, whenever it appears, antepartum, intrapartum, or during the neonatal period.

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Sickle cell trait and pregnancy

To the Editors:

In their article, entitled "Massive pulmonary embolism following delivery of a patient with sickle cell trait" (*AM. J. OBSTET. GYNECOL.* 143:722, 1982), Tung Van Dinh and coauthors have described one case of fatal pulmonary embolism in which "a massive 'saddle' pulmonary embolus . . . completely obstructed the pulmonary trunk and the two main pulmonary arteries." They also dwelled at considerable length on the observation that the woman had sickle cell trait.

It is not surprising that an occasional black parturient patient who dies has sickle cell trait since one of 12 black women has sickle cell trait.

What was the purpose of this report by Tung Van

Dinh and coauthors? Was it to try to implicate sickle trait in the fatal outcome? If so, the authors appear to have found little supporting evidence in the literature for such a phenomenon. Or, perhaps, was it to emphasize just the opposite, that is, pregnant women with sickle cell trait are extremely unlikely to die suddenly? They comment, "The only reported sudden death in pregnancy presumably associated with sickle cell trait occurred in 1957." That woman had eclampsia.

I strongly suspect that their purpose, unfortunately, was to try to engender fear of adverse outcome for pregnancies in which the mother has sickle cell trait, for in the last sentence they state, "Since it is known that a relationship between sickling and embolization exists, it is important to prevent embolism from occurring, thus emphasizing the importance of a complete prepartum workup to define such high-risk patients with sickle cell disease or trait." I find this sentence very confusing. For example, I know of no firm evidence of an association between sickle cell trait and embolization with or without pregnancy. Do the authors?

Our very extensive experience has been that women with sickle cell trait "perform" as well reproduction-wise as do black women whose red blood cells do not sickle. The only perplexing problem associated with their reproducing is the potential for their offspring to have a sickle cell hemoglobinopathy.

Too long the medical profession has been trying to make the individual with sickle cell trait unhealthy! Fortunately, appropriate data do not exist to justify such a view.

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Reply to Dr. Pritchard

To the Editors:

We wish to thank Dr. Pritchard for his interest in our article. We completely agree with Dr. Pritchard that patients with sickle cell trait fare well during their pregnancies, except for an increased incidence of pyelonephritis.^{1, 2}

Our purpose in reporting our case of fatal and massive pulmonary embolism was not "to engender fear of adverse outcome for pregnancies in which the mother has sickle cell trait" (please, trust our good hearts!) but to describe an extremely rare and perplexing case in which sickle cell trait, if not conclusively responsible for death, may have been a contributing factor.

In fact, McCormick,³ in reviewing a total of 120 autopsies of patients with sickle cell trait, found that in