obtained will underlie the diagnosis. Air was obtained through the pulmonary artery catheter and a buffy coat smear was stained by Papanicolaou method. Anucleate fetal squames (Fig 1) and numerous lanugo (Fig 2) were present. A portable A-P chest x-ray film obtained prior to emergency C-section was normal. The day of the perfusion lung scan, which demonstrated multiple perfusion deficits, the lung fields were also normal. The day following lung scan, diffuse pulmonary infiltrates affecting the entire left lung and right lower lobe were apparent. Forty-eight hours later, these infiltrates had completely cleared suggesting edema of a noncardiogenic etiology based upon Swan-Ganz pressure readings. Five days post C-section the patient was returned to the post-partum floor. Her blood pressure was 116/80 mm Hg with persistent peripheral edema. She was discharged four days later and continues to do well without any respiratory complaints.

Meticulously prepared buffy coat smears of blood samples obtained from the pulmonary artery catheter enabled us to confirm the diagnosis of amniotic fluid embolism. The consultants involved in the care of this patient debated at quite some length as to the underlying etiology of this patient's postpartum difficulties. Postpartum sepsis, severe pre-eclampsia and acute hypovolemic shock were all considered possible etiologies. The findings of anucleate fetal squames and lanugo established amniotic fluid embolism as the primary pathophysiologic event. Pulmonary microvascular cytology will prove very useful to the clinician in obtaining a clear-cut diagnosis in complicated cases, and better elucidating the full spectrum of disease processes, such as amniotic fluid embolism, that are associated with a high mortality rate.

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REFERENCE


To the Editor:

The case reported by Dr. Wyatt and his colleagues documenting the presence of amniotic fluid debris in the postpartum maternal microcirculation further expands our limited experience with this new technique.

Certainly the presence of unexplained hypoxemia, perfusion defects on lung scan in the absence of roentgenographic abnormality, and the development of consumptive coagulopathy in the postpartum period support the authors' contention that the finding of amniotic fluid debris in their patient's pulmonary microvasculature did, in fact, represent clinically significant amniotic fluid embolism. The observation that most previously reported patients with AFE have presented with diffuse pulmonary infiltrates (ARDS) may simply be a reflection of our inability to diagnose sublethal pulmonary involvement with this disorder in the past.

Although there is data suggesting that amniotic fluid embolism is an "all or none" phenomenon, we have only had the opportunity of studying one control postpartum patient with our technique. In this patient, a pulmonary artery catheter was inserted to assist in the management of cardiovascular collapse subsequently shown to be due to unrecognized intra-abdominal hemorrhage. Careful review of several samples of pulmonary arterial and wedged blood samples failed to reveal any evidence of amniotic fluid debris. More extensive studies of this nature are needed to determine whether small amounts of amniotic fluid debris enter the maternal circulation during clinically uncomplicated parturition.

We have found that it is important to keep slides meticulously clean and to use gloved hands when preparing blood smears to avoid contamination of the edges of the slide with squames and hair from the operators hands.

We look forward to pursuing studies of pulmonary microvascular blood from patients without pulmonary compromise but in whom pulmonary artery catheters have been inserted for peripartum hemodynamic monitoring (ie, the high-risk pregnancy).

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