Amniotic fluid embolism (AFE) continues to be one of the most feared and devastating complications of pregnancy. A reliable diagnosis can be made only upon histological examination. A detection of AFE every now and then has a relevant implication on medico-legal aspects of intrapartum or post-partum maternal death. However, there are only isolated reports in the literature concerning the detection interval of amniotic fluid elements after their transfer into the lungs. The objective of this study was to determine how long after the onset of clinical symptoms the elements of amniotic fluid may be detectable in the pulmonary circulation. An autopsy, as well as a histological and toxicological examination of 29 women, who died intrapartum or post-partum were performed. AFE was diagnosed in seven women (25%). The maximum survival time of the women with AFE and also the detection interval of AF in the pulmonary vasculature was 36 h. In the lungs of the women who did not die of AFE, amniotic fluid components were not found. Thus, there is no evidence for a physiologic occurrence of AFE. In women who die some days or even weeks after delivery as a consequence of a haemorrhagic shock following post-partum genital bleeding ensuing from uterine atony, AFE should be considered as a cause of a coagulopathy.