American Journal of Pathology, Vol. 156, No. 2, February 2000

Editor's Note

Vasculogenic Mimicry in Tumors

Fact or Artifact?

In the September 1999 issue of *The American Journal of Pathology*, we published a paper by Maniotis et al entitled "Vascular channel formation by human melanoma cells *in vivo* and *in vitro*: Vasculogenic mimicry" (Am J Pathol 155:739–752, 1999) and an accompanying Commentary by Mina J. Bissell entitled "Tumor plasticity allows vasculogenic mimicry, a novel form of angiogenic switch: A rose by any other name?" (Am J Pathol 155:675–679, 1999). The paper authored by Maniotis et al generated much interest and considerable publicity. It described experiments in which highly invasive primary and metastatic cells from uveal melanomas placed in three-dimensional cultures formed channels with the features of microvessels, in the absence of endothelial cells. The authors concluded that highly invasive melanoma cells can generate vascular channels in tumors independently of actual angiogenesis as it is commonly understood. The clear implication of these findings is that there may be different mechanisms capable of providing the necessary microvascular supply to tumors. If this reasoning is correct, new therapeutic strategies aiming at curtailing the blood supply to tumors need to be devised on the basis of the findings described by Maniotis et al.

After publication of the Maniotis paper we were contacted by several people. We received correspondence informing us that the idea of vasculogenic mimicry is not novel and that papers about it were published several years ago (see Correspondence by Shubik and Warren in this issue). Donald M. McDonald and others expressed strong reservations about the conclusions of the paper and found it to be unconvincing. Obviously, this is an important and controversial issue that cannot be properly discussed by the exchange of short correspondence. In this issue of the *Journal*, we publish two articles with opposing views regarding vasculogenic mimicry: a Review by Folberg et al supporting the concept and discussing in more detail vasculogenesis in uveal melanomas, and a Commentary by McDonald et al that is a strong critique of the data presented by Maniotis et al and that questions the conclusions put forward by these authors.

The authors of each paper received a copy of the article written by the other group after their own paper was submitted. This procedure was adopted to give the authors the opportunity to address their arguments to the readers rather than to each other. We hope that the publication of these articles will initiate a vigorous debate to be pursued at scientific meetings and lead to the publication of new data that may settle the issue. (*Editorial note:* McDonald et al state that Maniotis et al failed to mention examples of cells other than endothelial cells that form blood vessels. In fact, references 46–48 of Maniotis et al describe such findings.)

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Editor-in-Chief