

LYMPHANGIOGENESIS REVIEWS**THE EMERGENCE OF MOLECULAR AND TRANSGENIC LYMPHOLOGY:
WHAT DO WE (REALLY) KNOW SO FAR?****C. Suri**

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ABSTRACT

Since its first sequential visualization in 1902 by Florence Sabin, the development and maintenance of the lymphatic system has intrigued scientists and clinicians worldwide. Its close ties to the vascular network, relevance in the spread and control of parasitic and cancerous diseases, and involvement in the development of other disease states manifested by lymphedema are well known. What is still not clear is how the system develops in the first place, and this limits its effective manipulation for the management of disease states. The aim of the current article is to summarize advances that have been made via genetic approaches using transgenic and knockout mice. It should be noted that studies of lymphatic vessel growth utilizing protein reagents or transgenic technology alone, in a tissue/cell culture environment, during tumor metastasis, in a lymphatic disease paradigm, or during tissue repair, have shown that various growth factors, such as platelet-derived growth factor BB (1), hepatocyte growth factor (2), fibroblast growth factor (3), and VEGF-A (4) appear to play a role. This article is a commentary on the usefulness of specific genetic engineering tools in understanding the development of the lymphatic system — with a focus on the questions that have been addressed using these tools, the extent to which the questions have actually been answered, and the questions that have subsequently been raised. It is not meant to be a discussion of protein reagents or of specific biological situations that exhibit lymphangiogenesis (see reviews 5-7).

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