

MACROMOLECULAR TRANSPORT

In LYMPHOLOGY (17: 1984, 109-110), Casley-Smith publicizes a "Lymphatic Manifesto" of ten points. Under point "two" he states that macromolecules and particulates are transported from the interstitium back to the bloodstream *almost exclusively* by the lymphatic system, a view shared by most investigators. Yet, on the assumption that the Manifesto represents a true expression of Casley-Smith's concepts, a remarkable discrepancy seems to exist between this position and numerous other publications by him including the recent book "LYMPHANGIOLOGY" (M. Foldi, J.R. Casley-Smith, Schattauer, 1984, p. 53). Based on the presumption that only a small fraction of interstitial protein is transported by lymph with the bulk preferentially reentering the bloodstream directly via fenestrae in the postcapillary venules as a protective mechanism against edema formation, Casley-Smith has developed an experimental model of "virtual membrane" for thermodynamic realization of protein movement against a higher blood protein concentration in the presence of a large pore system. This feature of the model seems diametrically opposed by point "two" of the Manifesto. In other words, a shift from "small amounts" to "almost exclusively" in describing interstitial protein transport by lymph must have a major negative impact on his hypothetical scheme regarding lymph formation. The second application of the "virtual membrane" also now seems suspect especially for the region with high protein concentration reported by Casley-Smith along the venous limb adjacent to paravascular prelymphatic and initial lymphatic structures.

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IN REPLY

Professor Hauck readdresses the issue

concerning return of small and large molecules to the venous limb of fenestrated capillaries, and furthermore suggests I am inconsistent in my concepts and "models". In point of fact, however, the question regarding interstitial protein transport directly back into the bloodstream relates only to fenestrated capillaries. In continuous ones which comprise almost all nonvisceral and 50 percent of visceral capillaries, the lymphatic system transports most all proteins and some small molecules back to the bloodstream. These assertions are well outlined in the reference provided by Professor Hauck.

On the other hand, I take exception to the implication that the "Lymphatic Manifesto" solely represents my views. True, I drafted the final version but it was my chief goal to compose a consensus document (i.e. to keep it simple and non-controversial!) and to this end I was much helped by the Executive Committee. The primary aim was to provide basic concepts to individuals unfamiliar with the broad biologic and often neglected implications of the lymphatic system. In other words, it was a document for the heathen, not for the converted!

Still, I assume full responsibility for errors of omission, commission or confusion, and regret leaving out much that others doubtless feel is important. Nonetheless, I hope these deficiencies do not inhibit wider dissemination of the International Society of Lymphology and its commitment to elucidating this much maligned, and often unheralded vascular-immunologic system. Thus far, the Manifesto is having a 40 percent publication success rate with journals around the world.

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