

the lymphangion pressure rises considerably due to the fluid accumulation in the lymphangions. Finally, the present analysis indicates that the lymph flow in the lymphatic system is achieved through a multi-stage pumping by the lymphangions.

(This investigation was partially supported by the Social and Rehabilitation Service through Grant No. 23-P-55823/6.)

OLSZEWSKI, W.; RUKA, M. & SAWICKA, A.

Surg. Research and Transpl. Lab., Polish Acad. Sci. Warsaw — Poland

Experimental Lymphangitis

Lymphangitis has been a frequent complication of lymphedema being a secondary condition to the lymph stasis. It may also develop as a primary pathology and destroy lymph vessels and nodes, as well as to change into a chronic form resistant to treatment. The clinically important questions are: a) what type of bacteria are able to produce lymphangitis, b) is impairment of lymphatic transport a factor predisposing to lymphangitis, c) what type of changes are produced in lymphatics and lymph nodes during lymphangitis. Experiments were carried out in normal dogs and those with ligated femoral lymph vessels. Dog cultured streptococci were injected intradermally, and intralymphatically in the normal group, but no major changes were found. Lymph stasis only slightly influenced the radiographic picture. Injection of mixed cultures of streptococci, staphylococci, and *Proteus* produced acute changes in lymph vessels and nodes, with total destruction of lymph node structure after 6 months. After ligation of lymph vessels chronic inflammatory changes with intraluminal thrombi, perivascular infiltrations, and total depopulation of popliteal lymph node were seen. Lymphangiography revealed pictures similar to those observed in patients with post-lymphangitis lymphedema. Experimental infection of skin of dogs with lymphedema accelerated obliterative changes in lymphatics. Passage of streptococci from the skin to lymphatics and nodes was followed with immunofluorescent techniques. It has been stated that intestinal bacterial flora is most virulent in producing lymphangitis, and that lymph stasis predisposes to development of lymphangitis.

VREIM, C.E.; DEMLING, R.H. & STAUB, N.C.

University of California, San Francisco (San Francisco, California 94143 USA)

Protein Composition of Lung Fluids During Edema

Does major lung efferent lymph adequately represent interstitial fluid protein composition? In anesthetized sheep with interstitial pulmonary edema, we measured total protein (TP) and percent albumin (%A) in plasma, free interstitial fluid, lung surface lymph and efferent lymph from the caudal