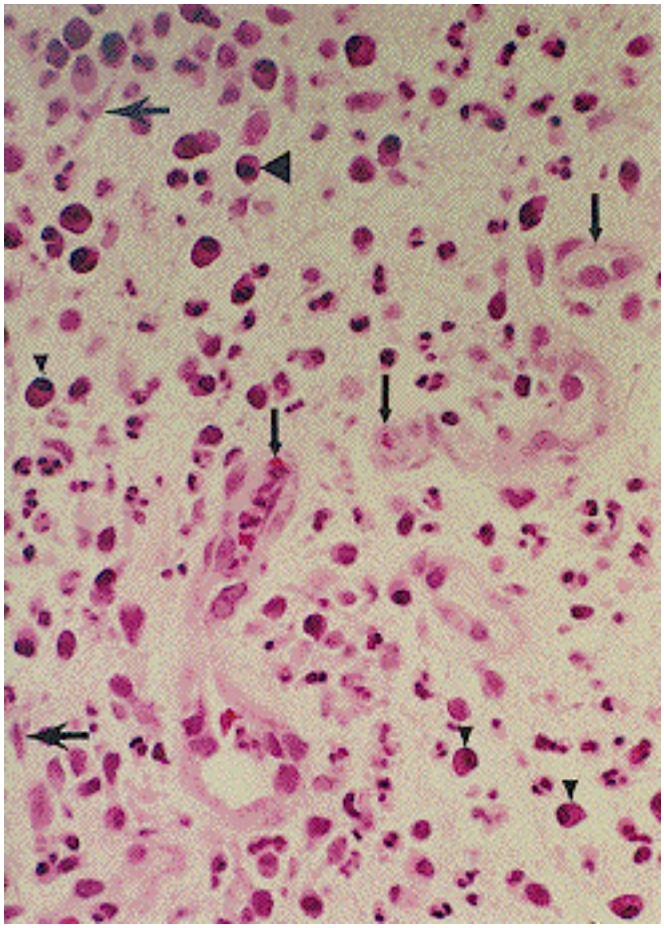
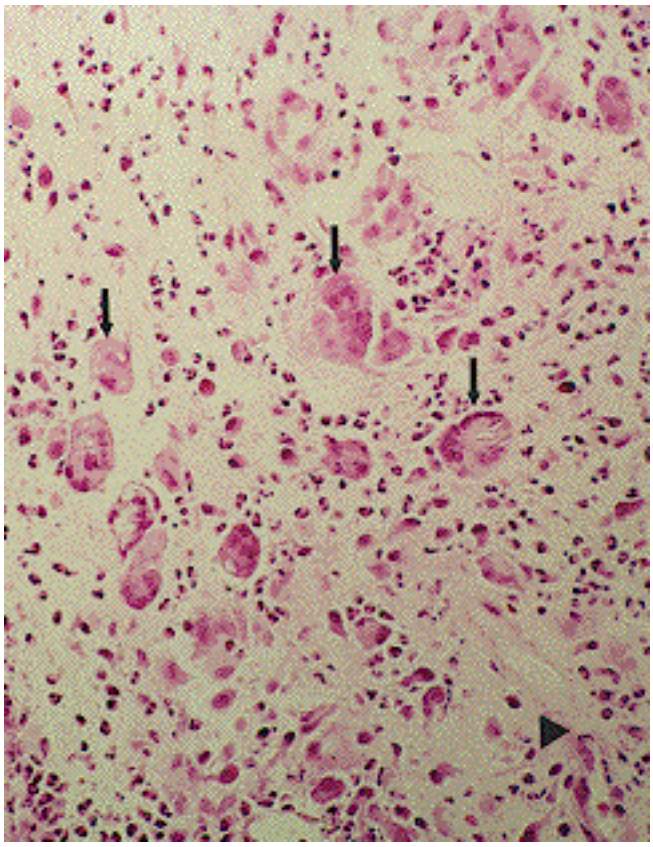
Granulation Tissue

Granulation tissue derives its name from one of its chief components, sprouting capillaries that tend to protrude from the surface of a healing wound producing minute red granules. The new capillaries at first are solid but shortly develop lumens containing blood cells (angiogenesis); some of these persist while others are resorbed. Cells and proliferating capillaries are the two major components of granulation tissue. The cells are chiefly fibroblasts and inflammatory cells— macrophages, lymphocytes, plasma cells, and neutrophils depending on the stage and development of the granulation tissue and the presence of infection. Fibroblasts appear early and form collagen. As the tissue matures the fibroblasts come to look less active and eventually become the chief cell of the final scar. Similarly the vascular tissue is reabsorbed and in the final scar may be inconspicuous.

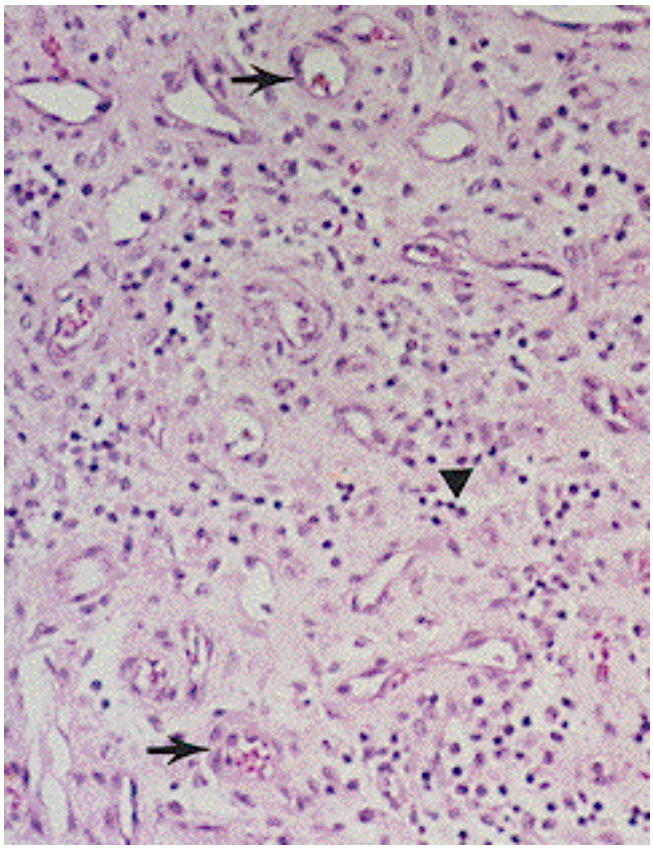
Granulation tissue, pyogenic; small capillaries are forming (small arrows), some as yet without lumens. Plasma cells (triangle) and lymphocytes predominate. Large arrows indicate fibroblasts.

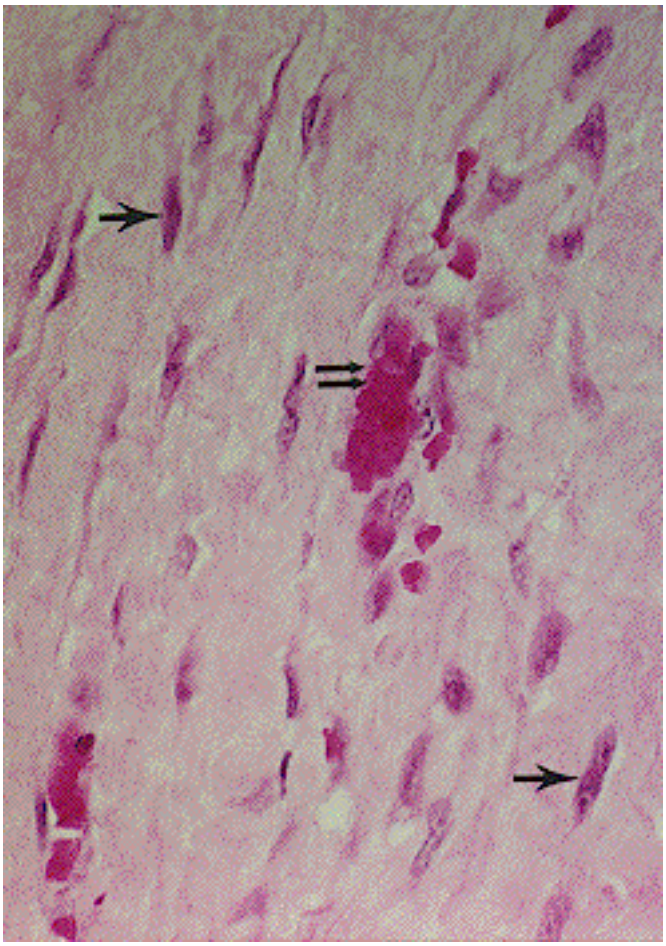


Granulation tissue, larynx. Giant cells (arrows) are conspicuous in this section. Capillary indicated by triangle.



Granulation tissue, larynx. Pyogenic granuloma at vocal process of larynx. Blood vessels (arrows) are well formed and are associated with lymphocytic cells of chronic inflammation (triangles). The vascularity of this tissue made the lesion appear red as seen in the laryngeal mirror.





Scar, subglottic. The marked fibrosis is the end stage of mature and resolving granulation tissue. Large arrows indicate nuclei of fibroblasts and double arrows point to a blood vessel.