The inflammation reaction is a nonspecific response to any agent that causes cell injury. The agent may be physical (like heat or cold), chemical (like a concentrated acid or alkali or another caustic chemical), or microbiologic (such as a bacterium or virus). The inflammatory reaction is characterized by both local and systemic effects, as indicated diagrammatically.

Local effect dilation of blood vessels and vascular permeability is caused by chemical mediators such as mast cells, histamine, plasma proteins-bradykinins, and complements. Dilatation and permeability caused heat, redness and swelling. Pressure on nerves caused tenderness and pain.