ABSTRACT
RCM offers tremendous potential for the advancement of medical research and clinical care. In research, it offers benefits both ex vivo and in vivo. Ex vivo, it can allow us to sample tissue and evaluate it noninvasively to determine what further testing--on the same exact tissue--may be helpful. In vivo RCM can be used to study normal or pathophysiologic processes in real-time noninvasively and by the same technique sequentially over time. Immunologic events previously only studied ex vivo or by static images can be traced from their inception to completion (Table 1). The potential of RCM in vivo is tremendous. How would our world change if we could noninvasively diagnose skin lesions and, with the advent of new minimally invasive therapies, administer treatment and noninvasively monitor that treatment? The potential to allow better medical care based on actual visualization of therapeutic response and healing is obvious. Much like early X-ray and ultrasound imaging, RCM is in its infancy. It is only a matter of time and continued persistent research that will lead to similar success and utility for RCM.