ABSTRACT
The current practice of pathology and dermatopathology depends upon the evaluation of tissue in some manner extirpated from the patient and then processed and stained. While high resolution of detail can be accomplished by this method, there are certain risks and disadvantages. Recent imaging techniques now allow for a potential of achieving noninvasive high-resolution analysis of lesions in situ in the patient. Of these, Reflectance mode confocal microscopy offers the highest resolution imaging comparable to routine histology. Being entirely non invasive, skin can be observed in its native, dynamic state. This chapter will review the fundamentals of in vivo confocal imaging and the clinical applications in general and surgical dermatology.