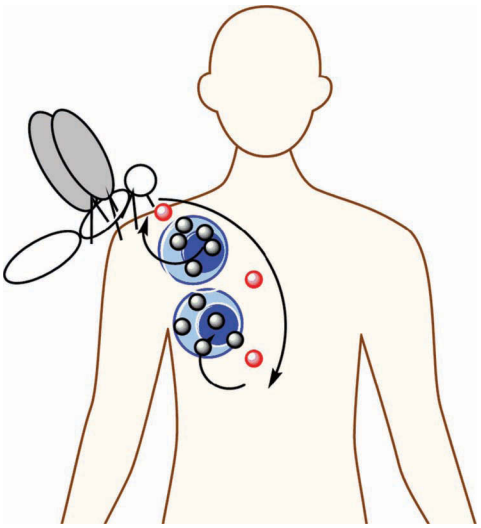

FIGURE 20.3 Life cycle of leishmania parasites. When the sand fly takes a blood meal, it regurgitates promastigotes (red spheres) into the skin. Macrophages take the promastigotes up by phagocytosis. In the macrophage, the promastigotes transform into amastigotes (black spheres) which proliferate. During another blood meal, the sand fly takes up the infected macrophages.

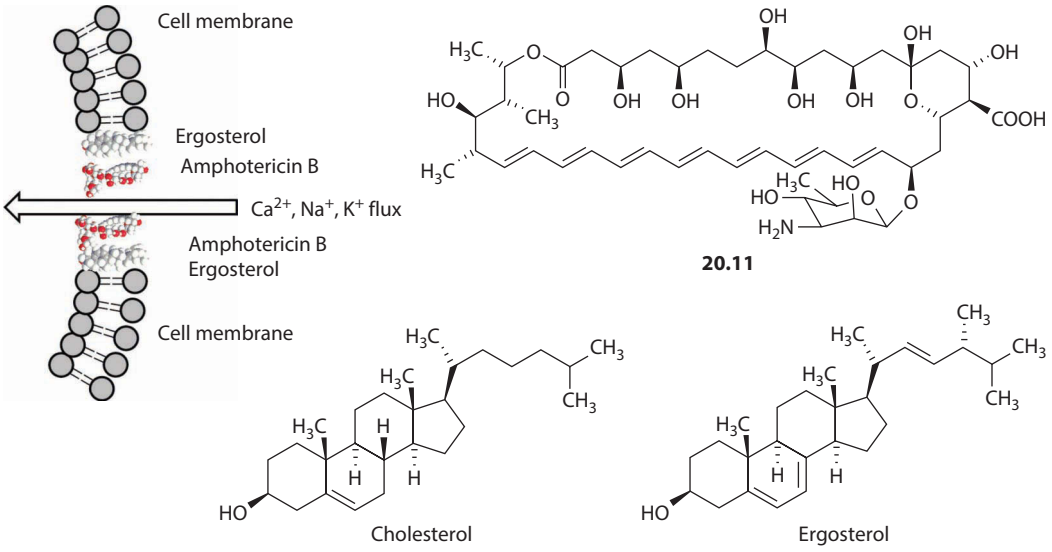

FIGURE 20.4 Mechanism of action of amphotericin B (**20.11**). The polyene region interacts with the double bonds of ergosterol which is found in the cell membrane of parasites. Mammalian cells contain cholesterol, in which the presence of only one double bond causes a weaker complex with amphotericin B. The orientation of the amphotericin B-ergosterol complexes creates an ion channel, through which an unregulated flux of small inorganic ion passes. Inability to control the concentration of inorganic ions eventually kills a cell.