Pathology is one of the most important and most necessary services in every hospital. Nearly all health services need pathology diagnosis for perfect work. Expert pathologists are the most needed workers in this system. A pathologist may encounter difficult and complex cases during his/her routine practice that need consultation with an expert in the related field. Experienced pathologists are very valuable, and accessing to these persons is one of those favorite facilities that each coworker wishes to have. But finding a kind, interested expert pathologist to consult difficult problems is among the great expectations that each pathologist has in his/her life. Knocking next door and sitting down with an experienced colleague at a double-headed microscope whenever you want is not always possible for many pathologists, especially in developing countries. But it is not restricted to faraway centers. Pathology is a very vast specialty that includes many subspecialties. Practicing in all fields of pathology in a large general hospital is nearly impossible, and there is increasing need to consult cases with subspecialist experts in different fields. So, finding and consulting one of them may also be a problem encountered by pathologists who work in large academic centers in developing countries.

It is clear that the information and communication technologies (ICT) in the health sector could provide a better quality of life to the citizens and an easier job environment for physicians and other health-care workers. ICT can be used wherever it has a clear benefit, such as reaching remote populations, providing continuous training for doctors, and offering the tools for building a national health network.

While telecommunication systems are advancing rapidly in many parts of the world, those areas most in need of telemedicine services are likely to be the last to upgrade their telecommunications infrastructures.

Telepathology, a subspecialty of e-health, involves the use of telecommunication technology to transmit images to distant sites for purpose of communicating diagnostic information or for teaching. Recent advances in technology have greatly increased the feasibility of performing diagnosis by telepathology, but there are still significant obstacles to overcome.
In this chapter at first, we review briefly the state of telemedicine and telepathology in Middle East Arab countries, and then we discuss in more details about telepathology in Iran, the most populated country in this region.

9.1 Telepathology in Middle East

The use of telepathology is limited to a few centers in Arab countries of the Middle East that have about 270 million populations [30]. The first documented experiment of static image telepathology in Kuwait and Arab world took place in 1999 [17]. Diagnostic microscopic images captured by a microscope-attached digital camera were selected by a pathologist in each case and sent with the clinical history to a second pathologist via email across the Internet. The diagnosis was sent back to the referring pathologist via email.

Amal cancer center in Amman, Jordan, has a telepathology section. This section consults with specialists at telepathology centers at Rotterdam and Leiden University in the Netherlands (2002) [33].

e-MedSoft.com is a leading application service provider (ASP) of comprehensive health-care information solution, has a Medreach™ telemedicine and a Medmicroscopy™ telepathology application that is selected by Medunet (a Saudi Arabian company). Medunet is a partnership between the Sultan Bin Abdulaziz Al-Saud Foundation and IMED Link, Inc., a USA-based provider of telemedicine services, medical and educational content development, advanced software design, and innovative network solutions to the Kingdom of Saudi Arabia. Medunet currently is a leading e-health service provider in Kingdom of Saudi Arabia. Through its satellite, microwave, and wireless networks, Medunet provides real-time classes, symposia, and distance grand rounds with leading US health-care institutions. Medunet has agreements with George Mason University School of Nursing to provide nursing education classes and with Columbia Presbyterian Medical Center and others for telemedicine services. Medunet also provides Internet and email services to over 10,000 physicians in the Kingdom of Saudi Arabia and recently launched its Web portal, Healthnet (http://www.health.net.sa), to focus on regional health-care issues [22].

Massachusetts General Hospital has spun off a subsidiary, American Telemedicine International (ATI) in recent years to provide telemedicine services to some centers in Riyadh. Telepathology is possible in this service [18].

In another collaboration project between the medical schools of Aberdeen University and the UAE University, telepathology teaching was conducted and evaluated. All students participating in the telepathology teaching sessions exceeded the minimum acceptable score of 60 in a multiple-choice examination [7].