Role of Radiology in Cancer Care

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Dear Editor,

An essential part of modern medicine is imaging [1]. It is known as "Clinical Radiology" since it is regarded as the foundation of medicine. Diagnostic radiography has been utilized twice as frequently as twenty years ago [2]. Cancer is a crippling disease with a complex pathogenesis resulting in abnormal cells with unchecked division. Tumors are broadly classified as benign or malignant, depending on their ability to spread to another body region. Malignant tumors are invasive and spread by breaking the basement membrane and using the blood and lymphatics to spread to other organs of the body. Cancer screening is cyclical testing to identify the disease at an occult stage with significant improvements in the disease prognosis. Various screening programs such as lung, colorectal, prostate, and breast cancer have started worldwide and much awareness is seen in Pakistan now.

Both benign and malignant primary mammary neoplasms have become much more common in recent years [3]. Breast cancer screening programs are in action in all the major cities, Breast cancer is the most common cause of cancer-related death, and cancer screening by annual mammography has reduced breast cancer deaths by almost 40%. Similarly, much work is being done now on lung cancer screening as well. Hence, radiology plays a vital role, and radiologists and oncologists go hand in hand in managing the cancer patient, starting from the first step, *i.e.* screening of the patient [4]. Radiologists play a vital role in image-based screening of various cancers [5]. Lung cancer is also a leading cause of cancer death, with a 5-year survival rate of 10–15%. Radiology also plays a vital role in lung cancer screening and low-dose CT chest is used for this purpose. The characteristics of lung nodules and overall growth are seen and now, with the advent of computer-aided detection systems (CAD), there is a significant decrease in chances of observational errors. Smoking and pollution have led to a significant increase in the number of patients with lung cancer; however, radiology helps a lot in diagnosing patients at earlier stages, thus improving their survival [6].

These days, multiparametric magnetic resonance imaging (mpMRI) is utilized extensively in Pakistan to identify prostatic abnormalities through the Prostate Imaging Reporting and Data System (PIRADS) [7]. Advances in imaging have helped a lot in recent years by improving the diagnostic yield by doing minimally invasive targeted biopsies, which reduces the risks of complications associated with the procedure and increases the chances of detecting cancer. The role of multiparametric prostatic MRI in targeting biopsies for suspicious prostatic lesions, stereotactic biopsies for breast cancer, and percutaneous CT-guided lung biopsies for suspicious lung nodules have been indispensable [8, 9]. Interventional radiology (IR) has also helped oncology every step of the way. Interventional radiologists have helped cancer patients by placing biliary stents, nephrostomy tubes, and pigtail catheters, gaining venous access and direct treatment of tumors by vascular access, such as chemoembolization of HCC or image-guided placement of radiofrequency and cryotherapy ablation probes [10]. Once the patient has been diagnosed with cancer, staging is really important, as it provides important insight for doctors and patients. Staging of the tumor suggests the outcome, treatment plan, and overall survival rate. With the advent of multidetector CT, integration of PET/CT, use of endoscopic ultrasound, and whole-body MR with DWI, radiology now plays an important role in the staging of tumors [11]. Thus, radiologists are aiding clinicians not only in diagnostics but also in various treatment options, lessening the burden of healthcare.

CONFLICT OF INTEREST

All authors declare no conflict of interest.

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