Interdisciplinary Approach in Oncology: A Cornerstone in the Holistic Management of Cancer

Abordagem Interdisciplinar em Oncologia: Uma Pedra Basilar na Gestão Holística da Doença Oncológica

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In 2020, there were approximately 19.3 million new cancer cases and 10 million cancer-related deaths worldwide. Female breast cancer has surpassed lung cancer as the most commonly diagnosed cancer, followed by lung, colorectal, prostate, and stomach cancers. However, lung cancer remained the leading cause of cancer death. The global incidence of cancer has been on the rise over the years. Several factors contribute to this increasing incidence, including population growth, aging, lifestyle factors, and improved detection methods.[1]

In oncology, the interdisciplinary approach has emerged as a cornerstone in the holistic management of cancer. This approach integrates the expertise of diverse healthcare professionals, leveraging advancements in screening, treatment, and technology to provide comprehensive care. The significance of this collaborative strategy extends beyond medical interventions, encompassing the integration of various healthcare disciplines, support projects for toxicity management, and a focus on palliative care.

In this special issue of Lusiadas Scientific Journal, we look at several aspects of the advances and interdisciplinary approach that leads to comprehensive cancer care.

Cancer screening plays a pivotal role in identifying malignancies at their early stages, often before symptoms manifest. Through routine screenings, healthcare professionals can detect abnormalities, enabling timely interventions that significantly enhance the chances of successful treatment. Mammograms, colonoscopies, Pap smears, and various imaging techniques contribute to the arsenal of screening tools, aiding in the identification of cancer in its earliest, most treatable forms.

The application of a structured population screening program for prostate cancer is not implemented in any member state of the European Union. A reality that the "Europe's Beating Cancer Plan" scientific committee intends to change. Prostate Cancer Screening future perspectives include, on the one hand, providing General Practitioners with simple and replicable risk stratification algorithms and predictive calculators. On the other hand, capacitating hospital referral centres with Active Surveillance clinical protocols and appropriate diagnostic equipment (MRI and trans-perineal prostate biopsy platforms with image fusion).[2]

In the era of personalised medicine, new breast cancer screening strategies should be adopted based on each woman's risk, which depends on various factors such as genetics, lifestyle or hormones. In the Lusíadas individualized approach, the frequency with which this screening is carried out is adapted to

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the individual risk level, as are the adapted imaging screening methods, with the advantage that this screening strategy can be changed regularly and individually. Its main objective will always be to increase the effectiveness of screening in reducing the mortality rate from breast cancer without increasing costs and undesirable effects in the majority of women (low risk).[3]

Medical Genetics has grown with Oncology and Oncology with Genetics: genetic studies have become unavoidable in assessing family risk for cancer and treating cancer patients. The range of tests will increase, bringing new challenges for users, doctors and institutions.[4]

The landscape of cancer treatment is continually evolving, propelled by groundbreaking research and technological innovations. Targeted therapies, immunotherapies, and precision medicine are revolutionizing how cancer is approached, tailoring treatments to the specific genetic makeup of individual tumours. These advancements not only improve efficacy but also minimize adverse effects on healthy tissues, fostering a more patient-centred approach to care. The integration of these cutting-edge treatments into the interdisciplinary framework ensures that patients benefit from a comprehensive and personalized therapeutic strategy.

Locally advanced rectal cancer (LARC) has a poor prognosis because of its high metastatic potential. A new promising therapeutic strategy known as total neoadjuvant therapy (TNT) involves the administration of concurrent chemoradiotherapy (CRT) plus neoadjuvant chemotherapy before surgery to deliver uninterrupted systemic therapy to eradicate micrometastasis. Recent data suggests that TNT has superior rates of pathologic complete responses with similar disease-free and overall survival compared to the standard approach. Additionally, it may allow more patients to enter organ preservation programs.[5]

The advent of theranostics (formed by merging the words therapeutics and diagnostics) is a significant event in the era of Precision Medicine because it allows us to understand the distribution of specific administered medications in the body, enhancing the possibility of preselecting patients who may benefit from such therapies. In Nuclear Medicine, therapeutic interventions have been carried out, for example, targeting differentiated thyroid carcinoma with iodine-131, treating neuroblastomas or metastatic pheochromocytomas/paragangliomas with iodine-131-metaiodobenzylguanidine or, more recently, with therapies for well-differentiated neuroendocrine tumours with lutetium-177-DOTATE and metastatic prostate adenocarcinoma with lutetium-177-PSMA. Radiopharmaceuticals, due to their radiation emission, have a mechanism of action distinct from other drugs and present challenges and opportunities in their clinical use.[6]

As cancer treatments become more effective, the management of treatment-related toxicities becomes increasingly important. Support projects that focus on alleviating side effects and enhancing the overall well-being of patients are integral to the interdisciplinary approach.

Cardio-Oncology (CO) as an organized discipline is a relatively new concept. It emerged from the growing need to provide specific cardiovascular care to cancer patients throughout their cancer treatment journey. CO is a multidisciplinary field requiring strict collaboration between cardiologists and oncologists/haematologists. The main goal of Cardio-Oncology is to enable cancer treatment while minimizing cardiovascular side effects. However, multicenter clinical trials to guide decision-making in many aspects of CO, such as risk stratification, are fundamental.[7]

Cancer-associated thrombosis (CAT) is the most common complication in cancer patients, occurring in 4%-20% of this population and representing the second leading cause of death in cancer patients, only surpassed by the progression of the disease. Implementing a CAT Clinic at the Lusíadas Group will enable on-site and on-demand risk assessment and pharmacological treatment for CAT, as well as education and support for cancer patients at increased risk of venous thromboembolism (VTE).[8]

Oncology care extends beyond the expertise of oncologists, involving an enlarged team of healthcare professionals. Nurses, radiologists, pathologists, social workers, and other specialists collaborate seamlessly to provide comprehensive care. The integration of these varied perspectives ensures that patients receive well-rounded support, addressing not only the physical aspects of the disease but also the emotional, psychological, and social dimensions. This collaborative effort enhances the overall quality of care and fosters an environment where patients feel supported at every stage of their cancer journey.

All Cancer Centres must have support care teams and services with adequate resources, culture and internal referral circuits, providing all their patients with access to these services, regardless of the stage or phase of the disease. Oncology nurses work at a generalist or specialised level in patient care, and their role can go far beyond the most immediate direct care, accumulating various roles and responsibilities to respond to patients' emerging needs.[9]

Radiology is essential in oncology, contributing to cancer detection, diagnosis, staging, and monitoring. Collaboration

between radiologists and other healthcare professionals is critical to address challenging problems in oncology.[10]

Palliative care, which emphasizes symptom management and the improvement of quality of life, plays a crucial role in cases where curative treatments may not be possible. Integrating palliative care early into the broader oncology framework ensures that patients and their families receive compassionate and holistic care, regardless of the stage of the disease.

With the increase in the number of people in need of palliative care (PC), artificial intelligence (AI) applied to PC can help improve current prognostic capabilities and thus identify patients at greater risk of mortality or symptom exacerbation earlier, to make shared decisions consistent with patients' needs and wishes, preventing some decisions regarding treatment options from being made only in the last moments of life. There still needs to be more scientific evidence on the referral of patients to palliative care using AI, and most of the existing studies have many limitations. Therefore, further research in this area is essential to understand better the impact of using these technologies in healthcare and their ethical implications.[11]

The interdisciplinary approach in oncology represents a paradigm shift in cancer care, emphasizing collaboration, innovation, and comprehensive support. This approach addresses cancer as a multifaceted challenge, from early detection through screening to the integration of cutting-edge treatments and an enlarged supporting team. By embracing this holistic model, healthcare professionals can promote a new era of cancer care that not only improves survival rates but also enhances the overall quality of life for individuals and their families.

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