Clinical Research and Cancer

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Pesquisa Clínica e Câncer

Investigación Clínica y Cáncer

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The first known clinical trial dates back from the Old Testament 600 years before the Common Era, which today would be classified as a pilot-study[1]. Europe is the most highly interconnected geographic region in terms of clinical research in the world[2], and the European Organization for Research and Treatment of Cancer (EORTC) was founded only in 1962 and ever since, conducted more than 1,400 clinical trials through its network counting with more than 5,300 investigators and nearly 400 institutions distributed in 37 countries, keeping the same objective of improving the quality of life and survival of patients with malignant neoplasms[3]. In 2008, the Latin American Cooperative Oncology Group (LACOG) was founded by oncologists with great valorization of interdisciplinarity and investigators with ample expertise in health, and even non-medical are in their staff roster. In this context, the challenge is even bigger with the objective of ensuring oncologic treatment of excellence in middle-and-low income countries[4].

Any clinical trial prior to the submission to the Institutional Review Board, should have been developed from a relevant research question, with good design and analysis tools and upheld by a high-quality database that any investigator can understand and reanalyze, if necessary. It is critical to define the target-population, exposure or intervention groups, comparisons, and outcomes to be evaluated[5] following the fundamentals of clinical research, which applies to oncology too.

Increasingly advanced molecular biology techniques as mass spectrometry, omics analyzes, genome sequencing and single-cell analysis have been substantially enhancing the progress of clinical researches in general[5] encompassing oncologic patients. The use of circulating tumor DNA is another example of new technologies in constant expansion. In this context, epigenetic assays advance at fast pace with innovative researches that can be useful in studies involving cancer and in clinical practice. Some examples of application in clinical research and cancer are the DNA methylation that can contribute for the process of carcinogenesis by silencing tumor suppressor genes and genotyping of cell-free circulating tumor DNA (cfDNA) with the imminent clinical application in non-small cells lung cancer (NSCLC)[6].

The evolution of molecular techniques allowed the characterization of new tumors as in the case of salivary glands malignant neoplasms. The clinical research team of the National Cancer Institute José Alencar Gomes da Silva (INCA) described for the first time at INCA a recently discovered tumor: the secretory carcinoma (SC) of salivary glands. The category of carcinoma not otherwise specified (NOS) is doomed to extinction with the evolution of clinical, pathological and molecular trials, as it has been increasingly possible to understand these rarer tumors through the identification of gene fusions such as ETV6-NTRK3 typically found in SC, whose patients can benefit from molecular targeted-therapy[7].

The relevance of the globalized network is seen in clinical trials which has been more frequent, not only increasing the statistical representativeness but also the genetic variability of the patients and tumors investigated[2]. Currently in INCA investigators are conducting nearly 150 multi-center clinical trials with patients consulted and treated in the institution.

Today, the care provided to oncologic patients should take into account the Sars-CoV-2 pandemic, not only in consultation but also in clinical research, since they seem to present a higher risk of getting COVID-19, with a higher lethality rate than the general population[8]. And, eventually, the steady progress of basic research and increasing globalization of clinical research should encourage the challenges of translational research in cancer to become opportunities[9] through clinical trials that allow improvement of cancer patients' survival, with the development of new antineoplastic treatments which present less adverse effects.

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REFERENCES

1. Nakamura R, Khawaja F, Castillo-Saavedra L, et al. Basics of clinical research: introduction to clinical research. In: Fregni F, Illigens BMW, editors. Critical thinking in clinical research: applied theory and practice using case studies. Oxford, UK: Oxford University Press; 2018. p. 3-25. doi: https://doi.org/10.1093/med/9780199324491.003.0001
2. Richter TA. Clinical research: a globalized network. PLoS One. 2014;9(12):e115063. doi: https://doi.org/10.1371/journal.pone.0115063
3. Broes S, Saesen R, Lacombe D, et al. Past, current, and future cancer clinical research collaborations: the case of the European Organisation for Research and Treatment of Cancer. Clin Transl Sci. 2021;14(1):47-53. doi: https://doi.org/10.1111/cts.12863
4. Barrios CH. The good example: potential of clinical research to expand quality care in low- and middle-income countries. Am J Bioeth. 2016;16(6):22-3. doi: https://doi.org/10.1080/15265161.2016.1170246
5. Hoshino J. Introduction to clinical research based on modern epidemiology. Clin Exp Nephrol. 2020;24(6):491-9. doi: https://doi.org/10.1007/s10157-020-01870-3
6. Ossandon MR, Agrawal L, Bernhard EJ, et al. Circulating tumor DNA assays in clinical cancer research. J Natl Cancer Inst. 2018;110(9):929-34. doi: https://doi.org/10.1093/jnci/djy105
7. Alves LDB, Melo AC, Lima Araujo LH, et al. Secretory carcinoma of salivary glands at the National Cancer Institute: a 20-year retrospective clinical, pathological, immunohistochemical and molecular study. Oral Oncol. 2021;117:105198. doi: https://doi.org/10.1016/j.oraloncology.2021.105198
8. Thuler LCS, Melo AC. Sars-CoV-2/Covid-19 em pacientes com câncer. Rev Bras Cancerol. 2020;66(2):e-00970. doi: https://doi.org/10.32635/2176-9745.RBC.2020v66n2.970
9. Stefanoff G. Pesquisa translacional em câncer: desafios e oportunidades. Rev Bras Cancerol. 2021;67(1):e-001768. doi: https://doi.org/10.32635/2176-9745.RBC.2021v67n1.1768

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