Stem cells: The new frontier of drugs

Scientific innovations of the last year had pushed stem cells as an alternative therapy to drug and synthetic material. Several recent studies have demonstrated the effectiveness of these cells in cancer therapies; indeed, some researches had established the significant biological safety of adipose derived stem cells and more important procedures exploiting stem cells, during the expansion process, do not need products extracted from animal (bovine fetal serum): this assures a higher level of compliance with GMP quality standards. Platelet lysate is the medium that, if introduced in the biological culture, other than provide a safer final product, results in a significant increase of the proliferation process, hence a reduction of the time of cultivation (almost 50%). Moreover, using stem cells, cell proliferation increased 10 times more than precedent culture techniques. A safer and more effective product is the results of the use of adipose derived stem cells. Moreover, also production costs are reduced which had resulted in more cost-effective use of autologous expanded ADSC’s for patients. An important clinical study conducted by the University of Copenhagen had demonstrated the effectiveness of adipose derived stem cells in soft tissue augmentation making it a suitable alternative to the use of implants or fillers for body shaping or face contour. Furthermore, a clinical study from most important European universities in the field of orthopedics funded by the European Union (within the 7th Framework Program) analyzed the application of the stem cells in the treatment of cartilage degeneration (osteoarthritis). This clinical trial (ADIPOA) lasted 54 months and it demonstrated the safety and effectiveness of stem cells in the treatment of osteoarthritis. Moreover, it also highlights the ideal dosage to cure this disease. Stem cells are an alternative product to botulinum toxin, hyaluronic acid, polylactic acid and anti-inflammatory and immunomodulatory medicines.

Biography

Giuseppe Mucci has graduated in Movement Science at Faculty of Medicine in Urbino, Italy. He is a Professor of Bio-Economy at the University of Lugano, Switzerland and Advisory Board Member of the University of Roma Tor Vergata. He has established Bioscience Institute in San Marino, Italy in 2007 and Bioscience Clinic in Dubai, UAE in 2013.

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