Submission: Regulation of Autologous Stem cell Therapies

3 March 2015

The Australian Knee Society (AKS) welcomes the opportunity to provide a submission in response to the Regulation of Autologous Stem cell Therapies - Consultation Paper. This submission is primarily in regard to the regulation of autologous stem cell therapies used within the knee joint.

Background

The AKS is a Scientific Society whose purpose is the advancement of Orthopaedic Knee Surgery. Membership is derived from Fellows of the Australian Orthopaedic Association, the peak Federal organisation for Australian Orthopaedic Association (AOA). AKS members must demonstrate a specific interest in the ongoing advancement of knee surgery through research, promotion and scientific publication.

This position statement represents the opinion of the AKS Executive. Time constraints did not permit obtaining the entire membership's input.

Overview

The AKS supports the evidence based (EBM) stepwise introduction of new technologies for the relief of Musculoskeletal (MSK) Conditions.

MSK Conditions, especially Osteoarthritis are an increasing cause of pain and disability in Australia.

Mesenchymal Stem Cells may offer the ability to alter, renew or reverse degenerative MSK conditions.

AKS and AOA members have expressed concerns over recent highly publicised but unfounded claims of the clinical benefits of Adipose Derived Mesenchymal Stem Cells (MSCs) for MSK conditions.

Adipose Derived Stem Cell MSCs have not to date demonstrated superiority over placebo injections for the relief of osteoarthritic pain.

Bone Marrow Derived MSCs have demonstrated very early evidence of improved outcomes over placebo for osteoarthritic knee chondral lesions.

Allogenic MSC's have shown the ability to reverse meniscal loss over placebo in recent studies.

Orthopaedic surgeons frequently add autologous tissues such as Bone Graft, Bone Marrow Aspirate, Blood and Platelet Rich Plasma to various sites MSK, such as bone defects or connective tissue lesions with or without a substrate. Currently the use of these autologous tissues is captured by the Therapeutic Goods (Excluded Goods) Order No 1 of 2011 (The Order), similar to minimally manipulated Autologous MSCs.

Literature suggests the risk of the use and adverse events of MSCs in the MSK system is low, and much lower than in intra-arterial, intravenous, intra coronary, intra ventricular, intrafoecal, intra-spinal use.

Recommendations

The AKS supports further clinical research into the use of both Adipose Derived, Bone Marrow Derived MSCs and Allogenic MSCs in the relief and reversal of the MSK degeneration and osteoarthritic process.

MSCs use in MSK conditions should be regarded as experimental or investigational, and all recipients should be enrolled in clinical outcome trials as part of an EBM stepwise introduction of new technology.

The separation of Adipose Derived Stem Cell MSCs via collagenase or physical techniques such as ultrasound cavitation would appear to be beyond the "minimal manipulation" required of an exemption to the TGA's Order. This term requires greater clarification.

Of the five options given, the last four would make any "autologous stem cell" in its current usage almost impossible.

The appropriate concern of a government is that there is a lack of sound evidence to support the efficacy of a treatment that has an approximate cost at present of about $6,000 to $10,000. The comment that there is no incentive to undertake research of the kind that is designed to determine efficacy including clinical trials is sound. In particular, on one of the well-known companies listed on the ASX using stem cells as treatment, a comment has been made that the "measurement of biomarkers, such as MIF, to monitor … cell treatments and importantly to determine when additional injections of stem cell treatment should be administered." The assumption that one makes from this company declaration is that a further $1200 should be spent if there is an alteration in such biomarkers without any strong evidence that there is a regrowth of articular cartilage. (Cells can be harvested from the initial treatment and frozen, making them ready for injection in the future.)

Misleading or unproven direct marketing by companies or individuals about MSCs to the public is inappropriate.

Excessive TGA regulation will potentially limit the ability of research organisations to undertake research into MSCs due to compliance & opportunity cost.

Changing the current TGA regulation in regard exempted tissue derived devices will have unexpected consequence of the use of all Autologous tissues by Orthopaedic Surgeons such as blood and bone marrow.

We would recommend the Options 2 or 3 for the use of MSCs in the MSK system.

Option 2 : Exclude autologous stem cells from regulation under the Act in defined circumstances with clarification of the Term "Minimally Manipulated".

Options 3: Regulate autologous stem cells under Act, but exempt from registration and manufacturing requirements

We have no opinion on the altered regulation of MSCs when used in the following higher risk clinical situations: intra-arterial, intravenous, intra coronary, intra ventricular, intra foecal or intra-spinal.