

CLINICAL OUTCOMES OF MESOBLAST'S CELL THERAPY IN END-STAGE ISCHEMIC HEART FAILURE PRESENTED AT AMERICAN COLLEGE OF CARDIOLOGY VIRTUAL SCIENTIFIC SESSIONS

Melbourne, Australia; March 30, 2020; and New York, USA; March 29, 2020: Results from a sub-study of 70 patients with end-stage ischemic heart failure and a Left Ventricular Assist Device (LVAD), of 159 randomized patients who received either Mesoblast's allogeneic mesenchymal precursor cell (MPC) product candidate Revascor® or saline, were presented on March 28 at the American College of Cardiology (ACC) Virtual Scientific Sessions. The full results from these 70 patients will be published in a peer-reviewed journal.

When compared to controls, in MPC recipients:

- the mean proportion of temporary weans from LVAD support was higher (64% vs 43%; relative risk (RR) 1.55; 95% confidence interval (CI) 1.01-2.36)
- the rate of mucosal bleeding was lower (4.2 vs 28/100 patient-months; RR 0.15; CI 0.05, 0.40)
- there were fewer serious adverse events (66.06 vs 120.35/100 patient-months; RR 0.55; CI 0.31,0.97)
- there were fewer readmissions (0.59 vs. 1.14/100 patient-days; RR 0.52; CI 0.28, 0.95).

The conclusions were:

- MPCs had a beneficial effect on LVAD weaning, major mucosal bleeding, serious adverse events, and readmissions in ischemic heart failure patients
- these findings may reflect the effect of MPCs on angiogenesis, inflammation and endothelial dysfunction, and warrant further clinical research.

End-stage ischemic heart failure patients with LVADs are older and have co-morbidities such as diabetes, thereby closely resembling the majority of patients in Mesoblast's 566-patient Phase 3 trial for advanced chronic heart failure, planned to readout in mid-2020.

Revascor is being developed for use in end-stage ischemic heart failure patients with LVADs under existing FDA Regenerative Medicine Advanced Therapy (RMAT) and Orphan Drug Designations.

About Mesoblast

Mesoblast Limited (ASX: MSB; Nasdaq: MESO) is a world leader in developing allogeneic (off-the-shelf) cellular medicines. The Company has leveraged its proprietary mesenchymal lineage cell therapy technology platform to establish a broad portfolio of commercial products and late-stage product candidates. Mesoblast's proprietary manufacturing processes yield industrial-scale, cryopreserved, off-the-shelf, cellular medicines. These cell therapies, with defined pharmaceutical release criteria, are planned to be readily available to patients worldwide.

Mesoblast has filed a Biologics License Application to the United States Food and Drug Administration (FDA) to seek approval of its product candidate RYONCIL™ (remestemcel-L) for steroid-refractory acute graft versus host disease (acute GvHD). Remestemcel-L is also being developed for other rare diseases. Mesoblast is completing Phase 3 trials for its product candidates for advanced heart failure and chronic low back pain. If approved, RYONCIL is expected to be launched in the United States in 2020 for pediatric steroid-refractory acute GVHD. Two products have been commercialized in Japan and Europe by Mesoblast's licensees, and the Company has established commercial partnerships in Europe and China for certain Phase 3 assets.

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Mesoblast has a strong and extensive global intellectual property (IP) portfolio with protection extending through to at least 2040 in all major markets. This IP position is expected to provide the Company with substantial commercial advantages as it develops its product candidates for these conditions.

Mesoblast has locations in Australia, the United States and Singapore and is listed on the Australian Securities Exchange (MSB) and on the Nasdaq (MESO). For more information, please see www.mesoblast.com, LinkedIn: Mesoblast Limited and Twitter: @Mesoblast

Forward-Looking Statements

This announcement includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. Forward-looking statements should not be read as a guarantee of future performance or results, and actual results may differ from the results anticipated in these forward-looking statements, and the differences may be material and adverse. Forward-looking statements include, but are not limited to, statements about the timing, progress and results of Mesoblast's preclinical and clinical studies; Mesoblast's ability to advance product candidates into, enroll and successfully complete, clinical studies; the timing or likelihood of regulatory filings and approvals; and the pricing and reimbursement of Mesoblast's product candidates, if approved. You should read this press release together with our risk factors, in our most recently filed reports with the SEC or on our website. Uncertainties and risks that may cause Mesoblast's actual results, performance or achievements to be materially different from those which may be expressed or implied by such statements, and accordingly, you should not place undue reliance on these forward-looking statements. We do not undertake any obligations to publicly update or revise any forward-looking statements, whether as a result of new information, future developments or otherwise.

Release authorized by the Chief Executive.

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