***Title:*** Real-world evidence of mesenchymal stem cell therapy in knee osteoarthritis: a large prospective 2-year case series.

*Supplementary Material*

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Table 1. Adverse Events associated with abdominal lipoharvest procedure (n=329)

|  |  |  |
| --- | --- | --- |
| Adverse Event (AE) | Incidence | Expected/Unexpected |
| Discomfort   * Mild * Moderate * Severe   Swelling   * Mild * Moderate * Severe | 152  1  0  18  0  0 | Expected  Expected  Expected |
| Bruising   * Mild * Moderate * Severe | 171  1  0 | Expected  Expected |
| Wound discharge   * Mild * Moderate * Severe   Other\* | 151  0 0  4 | Expected  Expected |
| Serious AE | 0 | NA |

\*4 participants noted a local skin reaction associated with the wound dressings

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Table 2. Adverse Events associated with ADMSC therapy (n=329)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Initial ADMSC Injection (n=329) | | 6 month ADMSC Injection (n=329) | | |
| Adverse Event (AE) | Incidence | Expected / Unexpected | Incidence | Expected / Unexpected |
| Pain   * Mild * Moderate * Severe   Stiffness   * Mild * Moderate * Severe | 145  56  2  143  28  0 | Expected  Expected  Expected  Expected  Expected | 141  91  4  169  55  0 | Expected  Expected  Expected  Expected  Expected |
| Swelling   * Mild * Moderate * Severe | 163  50  5 | Expected  Expected  Expected | 155  84  8 | Expected  Expected  Expected |
| Other | Nil | NA | 1\* | Expected |
| Serious AE | Nil | NA | Nil | NA |

\*A single participant experienced a self-limiting vasovagal episode in the immediate period post IA ADMSC therapy.

Table 3. Non injection related Adverse Events documented during the 24month period of follow-up

|  |  |
| --- | --- |
| Adverse Event (AE) | Incidence |
| Neoplasm   * Prostate Ca   Musculoskeletal   * Polymyalgia Rheumatica   Hospital Admission   * Knee arthroscopy (acute meniscus tear) * Gastric Sleeve Surgery | 1  4  1  1 |

Figure 1. Numeric Pain Rating Scale (NPRS) scores at baseline, 6, 12 and 24 months for all patients (n=329 at baseline) compared to those patients who did not undergo total knee replacement after 12 months (n=297). Group mean data and 95% confidence intervals are depicted. An \* equals significant differences (p<0.05) when compared to baseline for that compartment. No significant differences were apparent between groups for any time point. Power of performed tests with alpha 0.05 = 1.

Chart, line chart

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Figure 2. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) at baseline, 6, 12 and 24 months for all patients (n=329 at baseline) compared to those patients who did not undergo total knee replacement after 12 months (n=297). Group mean data and 95% confidence intervals are depicted. No significant differences were apparent between groups for any time point. Power of performed tests with alpha 0.05 = 1.

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Figure 3. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) for each osteoarthritis (OA) compartment at baseline, 6, 12 and 24 months after ADMSC therapy. Group mean data and 95% confidence intervals are depicted. Significant differences (p<0.05\*) were found within the Multiple Compartment OA group at 12 and 24 months compared to baseline. No significant differences were apparent between compartments for any time point. Power of performed tests with alpha 0.05 = 1.

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Figure 4. Numeric Pain Rating Scale (NPRS) scores for each carrier media used with ADMSC injections at baseline, 6, 12 and 24 months. An \* equals significant differences (p<0.05) when compared to baseline for that carrier media. No significant differences were apparent between carrier medias at any time point. Power or performed tests with alpha 0.05 = 1.

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Figure 5. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) for each carrier media used with ADMSC injections at baseline, 6, 12 and 24 months. An \* equals significant differences (p<0.05) when compared to baseline for that carrier media. No significant differences were apparent between carrier medias at any time point. Power or performed tests with alpha 0.05 = 1.

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Figure 6. Linear regression analysis of Body Mass Index (BMI) vs. change in Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score at 24 months from baseline following ADMSC therapy. The regression line shows that BMI is able to only predict 1% of the variability in change in WOMAC score. Group mean data from 297 knees. Significance of the associated variables in p=0.87 and the power of the performed test with alpha 0.05 = 0.402.

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Figure 7. Linear regression analysis of age (years) vs. change in Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score at 24 months from baseline following ADMSC therapy. The regression line shows that BMI is able to only predict 1% of the variability in change in WOMAC score. Group mean data from 297 knees. Significance of the associated variables in p=0.339 and the power of the performed test with alpha 0.05 = 0.158.

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