Author Year Country Research Design Score Total Sample Size	Methods	Outcome
Albu et al. 2021 Spain RCT PEDro = 8 Level 1 N = 10	**Population:** 10 patients with chronic and complete (AIS D) thoracic SCI; 7 males and 3 females; mean age 32.7 years; injury level T3 (n = 1), T4 (n = 3), T5 (n = 2), T6 (n = 1), and T11 (n = 3); and mean time since injury 31.9 months. **Treatment:** Participants were randomly assigned to first receive an intrathecal infusion of Wharton jelly mesenchymal stromal cells isolated from human umbilical cord or placebo. After 6 months of the first infusion, participants received the opposite treatment. *Stem cell transplantation. **Outcome Measures:** AIS motor and motor evoked potentials of the tibialis anterior and abductor hallucis muscles bilaterally were assessed at baseline, 1 month, 3 months and 6 months after each intervention.	1. Intrathecal administration of mesenchymal stromal cells was well tolerated, and only non-severe side effects, such as an episode of headache and vomiting and local pain after lumbar puncture, were reported the day after intrathecal infusion. 2. Specifically, change in pinprick sensation on the right side was significant at 3 months (P = 0.03) and reached maximum improvement at 6 months (P = 0.013), compared with baseline, following WJ-MSC infusion though no sensory changes were significant on the left side in either group. Improvement in pinprick score was not predicted by the level of spinal injury or time after injury. MEPs and SEPs from the lower limbs were absent at baseline and 6 months after either MSC or placebo infusion. 3. There were no significant changes in motor or independence measures in either group.
Kishk et al. 2010 Egypt Case Control Level 3 N = 64	**Population:** Treated Group – 36 males, 7 females; mean (SD) age 31.7(10.4); 12 complete, 31 incomplete SCI Control Group – 15 males, 5 females; mean (SD) age 33.8(11.8); 3 complete, 17 incomplete SCI. **Treatment:** Monthly intrathecal injection of autologous bone marrow mesenchymal stromal cells for 6 months, all participants received 3 rehabilitation therapies	1. A significantly greater proportion of the treatment group showed improved motor scores, but this is not clinically relevant as it was only by 1-2 points in 18/44 participants (48.7(9.1) to 49.3(9.2)).

	per week. **Outcome Measures:** Trunk muscle assessment, Modified Ashworth Spasticity Scale, FAC, AIS sensorimotor, motor and sensory scores, lower-limb somatosensory evoked potentials. Participants were evaluated at entry and at 12 months after completing the 6-month intervention.	2. There were no significant differences between-groups for trunk support, Functional Ambulatory Categories, sensory exam (pin prick), scores, tone, bladder control questionnaire, bowel control, and AIS changes. 3. Adverse effects of injections included spasticity (significantly more often in treatment group; p<.01) and 24 out of the 43 patients developed neuropathic pain. One participant with a history of post-infectious myelitis developed encephalomyelitis after her third injection and was forced to withdraw from the study.
Lima et al. 2010 Portugal Pre-post Level 4 N = 20	**Population:** 17 males, 3 females; mean (SD) age 30.2(5.7); 15 patients AIS grade A, 5 patients AIS grad B; all > 1 YPI. **Treatment:** Olfactory mucosal autografts into the area of the SCI a mean of 49 months after injury, with pre-operative rehabilitation (mean (SD) 31.8(6.8) hours/week for 34.7(30) weeks) and post-operative rehabilitation (mean (SD) 32.7(5.2) hours/week for 92(37.6) weeks) with BIONT or robotic BWSTT. **Outcome Measures:** AIS score and AIS grade, FIM, WISCI. The mean duration of follow-up was 27.7 months (range = 12-45 months).	1. Estimated mean change in all ASIA neurological measures (pink prick, light touch, motor arms, motor legs) was statistically significant. ASIA motor LEMS score improved from 0 to 4.95(7.1) post intervention. 2. 11 patients improved their AIS grades (6 by 2 grades), and 1 patient's score deteriorated and suffered ARs (aseptic meningitis, spinal cord edema). 3. 9 of the patients with an AIS score of 0 at baseline improved from 4 to 22 at last evaluation. 4. Of the 13 patients assessed for functional studies, all had improvements on FIM scores (mean (SD) 71(23) to 85(28)) and WISCI scores (0.2(0.4) to 7.4(2.6)). 5. Patients at facilities focusing on BIONT showed better motor recovery compared with those at facilities focusing on BWSTT. 6. Voluntary motor potentials of the lower limb muscles were found in 11/20 patients.