

# ANIMAL HEALTH & VETERINARY MEDICINE

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## LED activated autologous adipose-derived mesenchymal stem cells in the management of canine coxofemoral joint laxity and osteoarthritis: A study of eight cases (2013-2015)

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**Objective:** Studying the clinical efficacy of intra-articular and intravenous injection of LED activated ADMSC in improving the comfort and mobility of dogs with hip OA.

**Design:** Each case selected were previously scheduled for excision arthroplasty surgery, however the owners were more inclined to consider a less invasive method in managing the pain and lameness. LED activated ADMSC was offered as an alternative.

**Case Description:** Clinical report applied on a random selection of 8 dogs of different age and breed diagnosed with coxofemoral OA.

**Clinical Finding:** Pain, lameness and limited range of motion were present in all cases. 2 cases had signs of muscle atrophy, joint laxity and osteoarthritis. The remaining 6 cases had signs of hip osteoarthritis and muscle atrophy only with OAS scores ranging from Grade 2 to Grade 5.

**Outcomes:** The pain, lameness and mobility were assessed using osteoarthritis scores (OAS), orthopedic evaluation score chart (OES) and distraction index (DI) techniques. These evaluations were applied at pretreatment, 1, 2, 3, 12 and 24 months post treatment. All cases in this study showed clinical improvement 30 days after LED activated ADMSC administration. The mean value of OES, DI and OAS showed significantly improved up to 12 months. However, no clinical improvements or changes in mobility or pain scores were shown for the next 12 months.

**Clinical Relevance:** All cases showed obvious clinical improvements for a period up to 1-year post-therapy. Improvements were noted on the OES scores through reduced pain and stiffness and improved mobility and activity.

### Biography

Asem M Atwa has completed his PhD in Veterinary Microbiology. He invented a patent vaccine for poultry necrotic enteritis. He worked as Laboratory Director at veterinary quarantine. Now, he is working as Researcher at Animal Medical Center.

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