

Shockwave Biosurgery and Autologous Growth Factors Combined Therapy in Minimally Invasive Treatment of an Intertrochanteric Fracture Non-union: a Case Report

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A significant number of hip fractures are produced by high energy trauma that causes complex fractures which are difficult to manage with closed or open reduction and internal fixation. Some patients present low energy trauma fractures that are mostly incomplete or not displaced. These fractures are difficult to diagnose and can lead to complications like pseudarthrosis, non-unions or fracture displacement.

We treated a 38-year-old man with a non-displaced intertrochanteric fracture non-union. The first treatment option was to perform an open reduction with cure of pseudarthrosis and bone grafting. However, the adequate stability of the fracture and the difficulty in performing surgery on an overweight patient led us to propose a non-invasive treatment option. Given our experience with RSWT & Autologous Growth Factors (AGF) combined therapy, we choose such a treatment for this patient. We applied 4,000 shockwaves at 4 BAR at the trochanteric area without anaesthesia. Previously, we obtained 30 cc of blood that was processed in a double centrifuge process. The AGF was activated and mixed with morselized bone allograft, and applied percutaneously into the non-union. Our patient was allowed to walk with crutches post-treatment.

Pain was controlled and no complications occurred. X-rays showed bone bridges after 2 weeks and a solid bone callus after 4 weeks.

RSWT and AGF combined therapy may be a useful procedure to treat non-unions of intertrochanteric non-displaced fractures. We believe this therapy could be performed in acute incomplete or not displaced fractures of the hip.