

Reduction of painful vaso-occlusive crisis of sickle cell anaemia by tinzaparin in a double-blind randomized trial

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A randomized double-blind clinical trial was performed to test the safety and efficacy of a low-molecular-weight heparin, tinzaparin (Innohep®), for the management of acute painful vasoocclusive crisis characteristic of sickle cell anemia (SCA). We studied 253 patients with acute painful crisis but with no other complications of SCA, randomized to treatment or control groups. In the treatment group, 127 patients received tinzaparin at 175 IU/kg, subcutaneous once daily, along with supportive care including morphine analgesia; in the control group, 126 patients received placebo and the same supportive care. The maximal experimental treatment period was seven days. Analysis revealed a statistically significant reduction in number of days with the severest pain score, overall duration of painful crisis, and duration of hospitalization ($p < 0.05$ for each comparison of tinzaparin vs. placebo). The decline in pain intensity was sharper for tinzaparin-treated patients, and complications consisted of two minor bleeding events that were reported and treated by cessation of tinzaparin. This investigation demonstrated that tinzaparin, administered at its approved treatment regimen, reduced the severity and duration of acute crisis of SCA.

Keywords

heparin, Pain, Sickle cell anemia, tinzaparin, genetic disease