



Single-stage treatment of infected tibial non-unions and osteomyelitis with bone marrow granulocytes precursors protecting bone graft

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Dear editors:

We read an article entitled ‘Single-stage treatment of infected tibial non-unions and osteomyelitis with bone marrow granulocytes precursors protecting bone graft’ [1] with great interest in the October Issue of the journal. The authors tried to prove that bone marrow-concentrated granulocyte precursors used in bone graft for single-stage treatment of infected tibial non-unions would lower the risk of recurrence of infection. It is a valuable study but some queries and suggestions are needed to be considered before conclusions were made.

First, the non-union severity score (NUSS) and infection severity score (ISS) was used to assess the difficulties in treating non-unions, which may benefit to grading severity of infection and prognosis [2]. However, the authors just listed the patients’ basic information without evaluation of the severity condition. The irrigorous assessment may lead to an unreliable conclusion. Meanwhile, the authors only chose the C-reactive protein (CRP) levels as the indicator of the recurrence of infection. We believe that including other biologic marker such as procalcitonin (PCT) and erythrocyte sedimentation rate (ESR) will make the result more convincing.

Second, drainage after surgery is an important factor which is not mentioned in the article. The drainage tube is widely used in the conventional treatment of tibial non-union. The level of the MSCs and CFU-GM progenitor cells at the fracture site cannot be firmly maintain in the relevant place. Increasing studies confirmed that vacuum-assisted closure (VAC) or vacuum sealing drainage (VSD) after debridement can significantly decrease the risk of recurrence of infection for infected tibial non-union [3].

We suggest the authors to combine the advantage of both to make the study more meaningful.

Third, the authors stated that all of the patients had a minimum of five year follow-up. But we doubt whether the bone marrow-concentrated granulocyte precursors could play such a long-time role in protecting the patient from recurrent infection.

Last, the authors seem to adopt a single-blinded trial, but lack of a specific explanation about grouping. Subjective bias is important to the test confidence. In addition, patients’ age range from 19.2 to 61.6, which may cause bias since the different ability about recovering and immunity exist between the young and the old. Setting up subgroup analysis may decrease the interference.

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