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1: [Zhonghua Shao Shang Za Zhi](#). 2002 Aug;18(4):229-31.

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## [The effects of recombinant human growth hormone on the metabolism of branch chain amino acid in severely burned patients]

[Article in Chinese]

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**OBJECTIVE:** To explore the effects of recombinant human growth hormone (rhGH) when applied postoperatively on the metabolism of branch chain amino acid in severely burned patients. **METHODS:** Fifty burn patients, aged 12 - 50 years and inflicted by more than 30% TBSA with 10% or more of III degree burn and admitted from the January of 1999 to the January of 2001 were enrolled in the study. The patients were randomly divided into rhGH treating (rhGH group) and control groups. Escharectomy was performed within 3 postburn day (PBDs). rhGH (0.3 IU/kg) was injected percutaneously every evening for ten days since the 1st postoperative day (POD). The changes of the plasma levels of GH and branch chain amino acid and the urine level of 3-methyl histidine (3-MH) were observed in the morning in the patients from the two groups. **RESULTS:** The plasma GH level before operation decreased obviously in two groups of patients when comparing with normal value ( $P < 0.05$ ). The plasma GH level in rhGH group was evidently higher than that in control group since the 3rd POD ( $P < 0.05$ ). There was significant increase of the output amount of urine 3-MH in all patients, but which was obviously higher in control group than that in rhGH group ( $P < 0.05$ ). The plasma levels of branch chain amino acid in burn patients before and one day after operation were lower than normal levels. The plasma levels of valine, isoleucine and leucine increased to peak values at POD 3 in rhGH group and at POD 7 in control group and decreased thereafter. The plasma branch chain amino acid level in rhGH group was evidently lower than that in control group since POD 7 ( $P < 0.05$ ). The plasma GH level in rhGH group was negatively and significantly correlated with the urine output amount of 3-MH ( $P < 0.01$ ). **CONCLUSION:** Postoperative application of rhGH in major burn patients might be beneficial to the protein synthesis from amino acids by skeletal muscles and to the decrease of muscle protein degrading rate.

Publication Types:

- [Clinical Trial](#)
- [Randomized Controlled Trial](#)

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