patients is restricted. This study was designed to determine the in vitro sensitivity to LMWH of different reagents by sonoclot analyser, and to determine whether the ACT can be used to monitor LMWH.

**Methods** This study was performed in vitro. ACT was measured with different reagents (glass beads, celite, and kaolin) on volunteer (n=30) blood samples spiked with increasing concentrations of LMWH (dalteparin, 0.2–1.8 IU/ml). Linear regression analysis was performed to establish a regression equation from different concentration of dalteparin and corresponding ACT values.

**Results** Analysis of dose-response curves obtained in vitro, an excellent linear relationship was observed between the ACT and dalteparin concentrations for all three reagents (p<0.01). Differences in slope of the regression curves of ACT were observed with all the reagents tested (glass beads 249.7 s/1U, celite 77.7 s/1U, and kaolin 59.5 s/1U, p<0.01). Reagents vary widely in their in-vitro sensitivity to dalteparin. In the concentration range of 0.2–1.8 IU/ml, the gaolen reagent was too insensitive to dalteparin, and glass beads was the most suitable reagent for monitoring the anticoagulant effect of dalteparin.

**Conclusions** Using sonoclot analyser, there was an excellent linear relationship between the ACT and dalteparin concentrations for all the three reagents (glass beads, celite, and kaolin) in vitro. Glass beads may be a suitable reagent of ACT test for monitoring the anticoagulant effect of LMWH.

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**Basic Science: Experiment Research**

**e0172**

**EFFECTS OF EPO ON PROLIFERATION OF RABBIT BONE MARROW MESENCHYMAL STEM CELLS**

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**Objective** To explore effects of erythropoietin (EPO) on proliferation, activity and cell cycle of rabbit bone marrow mesenchymal stem cells (BMSCs).

**Methods** A total of four healthy male New Zealand white rabbits aged 6 weeks were supplied by the Experimental Animal Center of Nanchang University. Rabbit BMSCs were in vitro isolated by the density gradient centrifugation. Cells were assigned into normal, 2 u/ml, 4 u/ml, 8 u/ml, 16 u/ml groups. In the normal group, cells received normal culture, without additional EPO stimulation. Following EPO intervention, cell morphology and growth were observed. Cell proliferation was detected by MTT assay. Cell cycle changes were measured by flow cytometry. Cell supernatant was collected to detect the activity of matrix metalloproteinase-2 (MMP-2).

**Results** EPO to intervene BMSCs 3d, cells had no abnormal changes, showing colony growth. With increase EPO concentration, cell absorbance gradually increased, especially in the 16 u/ml group. Results were consistent with normal group, cell cycle changed in the 2 u/ml, 4 u/ml, 8 u/ml, 16 u/ml groups, and proliferation index significantly increased (p<0.05 or 0.01). Mass concentration of MMP-2 in supernatant was the lowest in the 16 u/ml group, and the highest in the normal group. Significant differences were detected among groups (t=213.21, p<0.001).

**Conclusion** EPO can increase the proliferative ability of BMSCs.

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**e0173**

**ISOLATION CULTURE AND IDENTIFICATION OF RAT MSC**

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**Aims** To investigate different ways of isolating and culturing rat MSC and different serum concentrations of medium for the best selection.

**Materials and methods** Direct adherence and density gradient centrifugation methods are used in MSC isolation, routine and modicum medium change methods are used in MSC culture. We compared the growth rate, cell quantity and population doubling time of MSC under different culturing ways and different serum concentration medium such as 10%, 11% and 15%. We identified cultured MSC in logarithmic growth phase (F3 generation) by cell surface antigen and its inducing differentiation function.

**Results** 4 methods, which are direct adherent and routinely changing of medium method, direct adherent and modicum medium changing method, density gradient centrifugation and routinely changing of medium method and density gradient centrifugation and modicum medium changing method, are used during MSC isolating and culturing respectively. The cellular average doubling time is 36.0±6.9 h, 23.5±1.1 h, 49.8±12 h and 48±0.8 h respectively. There are cellular colonies forming 3 to 10 days after isolation, shaping like whirlpool. From the serum concentration screening experiment, we find that 11% is the most suitable one for MSC growth. The result of cell surface antigen identification of MSC through immune histochemistry is CD45 (-), CD34 (+), CD90 (+) and CD45 0.38%, CD90 98.4% for positive expression of MSC through flow cytometry. MSC can be successfully induced to differentiate to chondrocyte and lipocyte.