had higher fibrosis with significant increase of fibroblast cell number. Prolonged UA injection induced severe injury as shown by higher fibrosis and glomerulosclerosis in UA14 compare to UA7 group ($p<0.05$). RT-PCR measurement revealed reduction of nephrine and podocine ($p<0.05$ vs control) and up-regulation of MCP-1 and ICAM-1 expression ($p<0.05$ vs control). UA7 and UA14 also had higher TGF,1 level compare to control ($p<0.05$). In conclusion, UA induced glomerulosclerosis, tubular injury and renal fibrosis with reduction of podocytes function and elevation of inflammatory mediators. TGF,1 and fibroblast expansion might modulate hyperuricemia induced renal fibrosis.

O-18

The role of student surgical interest groups and surgical olympiads in anatomical and surgical undergraduate training in Russia

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Traditional department-based surgical interest groups for students in Russian medical schools have proven to be useful tools for student-based selection of specialty training. They also form a nucleus for initiating research activities among undergraduate students. In Russia, the Departments of Topographical Anatomy and Operative Surgery play an important role in initiating student-led research and providing learners with advanced, practical surgical skills. In tandem with department-led activities, student surgical interest groups prepare learners through surgical competitions, known as "Surgical Olympiads," which have been conducted in many Russian centers on a regular basis since 1988. Surgical Olympiads stimulate student interest in the development of surgical skills before graduation and encourage them to choose surgery as their postgraduate specialty. In student scientific interest groups, students have a chance to select their future specialty and begin practical skills training at the age of 19-20 years, rather than 24-25 years of age as in other countries. This arrangement allows students to master practical surgical skills at an earlier, more pliant age, which may result in higher quality surgical training in Russia Many of the participants in these surgical Olympiads have become highly qualified specialists in general surgery, orthopedic surgery, neurosurgery, urology, gynecology, and emergency medicine. The present article emphasizes the role of student interest groups and surgical Olympiads in clinical anatomical and surgical undergraduate training in Russia.

O-19

Maternal transplantation of epidermal neural crest stem cells provides prenatal therapy in entorhinal cortex of methylazoxymethanol exposed mice

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Objectives: Malformations of cortical developmOents (MCDs) are one of the most usual causes of neurological disorders. The goal of the current study was to quantify the morphological changes in the entorhinal cortex in the mice that exposed in utero to methylazoxymethanol (MAM) and then received EPI-NCSCs prenatally.

Methods: The young mice were divided into four groups, each including 5 animals and following intervention was performed during in utero life: group I: control animals which received NaCl; group II: sham animals which received vehicle; group III: MAM-exposed animals which received intraperitoneal (ip) injection of MAM (25 mg/kg maternal body weight); group IV: MAM-exposed animals which received EPI-NCSCs. 30 days after birth, the brain tissues were removed. Then cresyl violet staining and also immunohistochemistry for NeuN, a mature neuronal marker was performed. The thickness of entorhinal cortex, number and mean cell volume of this area of cortex were estimated using stereological methods.

Results: Remarkable reduction in the thickness of the entorhinal cortex and mean cell volume of mature neurons was observed following ip injection of MAM as compared to control mice. But the number of neurons in the entorhinal cortex was not statistically significant difference among groups. In prenatal stem cell- treated animals, there was a significant increase in the width of entorhinal cortex. Moreover, the mean cell volume of NeuN-immunostained cells was significantly higher in the entorhinal cortex of stem cell transplanted mice in comparison with those of MAM- exposed mice.

Conclusion: Prenatal administration of EPI-NCSCs prevents the reduction in the entorhinal thickness following in utero exposure to MAM. As a result, EPI-NCSCs may provide clinically applicable source of stem cell in transplantation treatment of MCDs.

Keywords: Malformation of cortical development, epidermal neural crest stem cells, entorhinal cortex

O-20

Anatomy learning comics for the interested laypeople and students

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The laypeople who are interested in their health as well as the students who are going to take the anatomy course are recommended to know anatomy at basic level. For them, the comics might be an optimum educational media, thanks to its familiarity and simplicity. However, existing comics, drawn by cartoonists ignorant of anatomy, are not proper for the target readers. The objective of this study was to promote the laypeople and students to understand anatomy without other's assistance. Based on the teaching experience for three decades, anatomy comics were elaborated in a simple style. Title of comics was named after two main characters, "Anna & Tommy". The comics, which were arranged by the systems, delivered anatomical knowledge in concise and interesting manner. Because the comics were logical, memorable, and comprehensible, its educational effect was expected to be enhanced. Actually the evalua-