

IAF/IAA SPACE LIFE SCIENCES SYMPOSIUM (A1)
Medicine in Space and Extreme Environments (4)

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THE STUDY OF SPACE MEDICINE ON EARTH IN CONDITIONS CLOSE TO SPACE

Abstract

Nowadays, endoscopic mini invasive procedures, some of which even can be combined with laparoscopic interventions reach a big progress on Earth in condition of gravitation. It will be challenging to create a medical center, in which will be done special circumstances till up to operating room, where it will be necessary to create conditions maximum closed to space status (technical capabilities, modular station, settlement). It will be interesting to find answers to some questions in space conditions : will the changing of patient's position in case of ulcer bleeding or in case of difficult colonoscopic examination facilitate the doctor's work ? In space circumstances if the bowel preparation will not be good, how it will affect the direction of remnant feces and the effectiveness of examination? Will the aspiration apparatus work in the same way as on Earth ? How the space condition will impact the duration of waking up after sedation or it will be the same ? Will it be challenging to provide nutrition for patients who need enteral or parenteral way of delivery? In the sterile condition on the space how often will we meet the cases of bacterial or viral complications after invasive endoscopic procedures such as endoscopic submucosal dissection or per oral endoscopic myotomy or it will be absolutely absent ? Now we are living the beginning of XXI century and it is possible to walk around the orbit on the spacecraft. For the future it will be even possible to have a settlements on the space. And medical care always is a paramount part of any society. The building of medical centers with advanced technology, performing mini invasive endoscopic procedures in space condition, estimate pros and cons maybe will give to us new opportunities for best results which will be possible to achieve in the space. Our aim is to investigate the possibility of mini invasive diagnostic procedures and performing surgical interventions in conditions as close as possible to space after investigation of which it will be possible to accelerate the process of integration into space plans in the future.