Introdction:
Embolization of the draining vein during endovascular treatment of arteriovenous malformation (AVM) may result in venous outflow obstruction and haemorrhage. Anaesthesiologist can use deliberate hypotension to reduce blood flow through AVM which may be somehow helpful to prevent this scenario. Adenosine-induced cardiac arrest may facilitate the embolization too. The goal of our study was to improve the results of endovascular treatment of AVM using adenosine-induced cardiac arrest.

Methods:
After obtaining informed consent 13 patients (8 male, 5 female) were selected for adenosine-induced cardiac arrest during endovascular AVM embolization. Main age was 40.8 ± 6 years old. 9 of them were evaluated as III class ASA, 4 as IV. Endovascular treatment in all cases was performed under general anaesthesia. Propofol, fentanyl, rocuronium were used to induce anaesthesia, then all the patients were intubated and ventilated with parameters to keep EtCO2 32-35 mm Hg. Sevoflurane 2.1-2.6 vol% (12 cases) or desflurane 6 vol% (1 case) were used to maintain anaesthesia. Hemodynamic monitoring consisted of ECG, pulsoxymetry, non-invasive blood pressure measurement. Onyx or/and Squid were used as embolic agents. CT was performed to every patient just after procedure as well as neurological examination.

Results:
Adenosine dosage was 0.875-1.26 mg*kg. Time of consequent cardiac arrest was 10-40 sec. There were 10 cases we administered adenosine for 1 time, in one case we had to administer it twice, in one - 3 times and 4 times in one more case as well. Hemodynamic parameters recovered without any particular treatment in all the patients. Embolization has been performed in all the cases uneventfully. Postoperative CT showed no haemorrhage. Nobody from investigated group had neurological deterioration in postoperative period.

Conclusion:
Our study shows that adenosine-induced cardiac arrest is not very difficult to perform method and it can be useful during AVM embolization.