Introduction:
In common sedation is required during MRI for adult uncommunicative patients or those with different psychiatric disorders. Although it can be challenging to obtain the deep sedation level required to prevent the patient’s movement while maintaining respiratory and hemodynamic stability. Limited access to the patient may pose a safety risk during MRI.
Objectives: to compare efficacy and safety of dexmedetomidine sedation versus propofol during MRI in adults.

Methods:
This prospective randomized study was conducted at department of anesthesiology and intensive care at Postgraduate Institute of Bogomolets national medical university (Kyiv, Ukraine) during 2015-2017. Uncommunicative conscious patients with acute ischemic stroke were included in the study and randomly allocated to 2 groups – dexmedetomidine (D) and propofol (P). The sedation goal was the same in the both group (RASS 0 to -2). Patients in group D receive dexmedetomidine infusion in dose 0.2-1.4 mcg/kg/h, in group P – propofol 1-4 mg/kg/h. Data are presented as median and 25-75 quartiles.

Results:
104 patients (52 in each group) with median age 62 [55-76] years were included in the study. The goal level of sedation was achieved during 84 [76-91]% of total sedation time in group D, and in 64 [51-76]% of time in group P (p<0.05). The incidence of complications varied between groups: arterial hypotension occurred in 8/52 (15%) patients in group D and in 5/52 (10%) patients in group P (p>0.05), bradycardia in 7/52 (13%) and 2/52 (4%) (p>0.05), desaturation in 2/52 (4%) and 14/52 (27%) (p<0.05), bradypnoe in 0/52 and 4/52 (7%) (p>0.05).

Conclusion:
In this prospective randomized study dexmedetomidine comparing to propofol was associated with higher sedation quality and lower incidence of compiliation during acute ischemic stroke patients sedation for MRI.

References:
U Reddy, M White, Sally R Wilson; Anaesthesia for magnetic resonance imaging, Continuing Education in Anaesthesia Critical Care & Pain, Vol. 12, 2012, P. 140–144