

Introduction: This article describes a novel method of searching PubMed database using Google search algorithm. Google search operators “site:,” “intext:” and- “intitle” were used in the following fashion-*Site:https://ncbi.nlm.nih.gov/PubMed intext:Keywords -intitle:PubMed Results*. A survey was conducted to establish validity of this method by comparing it with PubMed Basic search. **Methods:** Single blinded survey of residents from three medical specialities was conducted to compare PubMed Basic search and Google search methodologies, using keywords dictated by participants. First 10 articles collected from both search methods were compiled and rated by participants on a scale of 0-10. **Results:** Google search method provided significantly higher overall mean relevance scores (6.14 ± 1.56 vs. 4.85 ± 2.06) and higher number of useful articles per participant (7.32 ± 1.97 vs. 5.12 ± 2.55) ($P < 0.001$). **Conclusion:** The novel method described herein provides more sensitive and specific search results for same keyword string than PubMed Basic search. This method could prove useful for the average researcher providing both accurate and exhaustive coverage from a single search.

ISNACC-S-14

Comparison of intravenous (propofol) and inhalational (sevoflurane) anaesthetic agent on cerebral oxygenation assessed by SjVO₂ in patient undergoing surgery for traumatic brain injury

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Introduction: Anaesthetic agents may produce deleterious effects on the compromised brain. There is lack of clinical data regarding the superiority of one anaesthetic agent over the other. The levels of serum Interleukin-6 serves as pro-inflammatory marker are increased with severity of brain injury. This study was conducted to evaluate the effects of propofol and sevoflurane on cerebral oxygenation, brain relaxation, systemic hemodynamic parameters and levels of IL-6 in patients with Traumatic brain injury. **Methods:** A prospective randomized comparative study was conducted on forty-two patients undergoing surgery for Traumatic brain injury. Patients were randomized into 2 groups, patients in Group P received Propofol while patients in Group S received Sevoflurane as agent for maintenance of anaesthesia. In all, anaesthesia was induced with propofol, intubation was facilitated by vecurorium and analgesia was maintained with Fentanyl. Anaesthesia was maintained with propofol or sevoflurane keeping entropy 40-60. Effect of these agents on cerebral oxygenation was assessed by

jugular venous oxygen saturation (SjVO₂) and various parameters derived from SjVO₂ and ABG values. Intra and postoperative hemodynamic changes and quality of intraoperative brain relaxation were assessed. The effect on level of serum biomarker IL-6 (a pro-inflammatory cytokine) at the end of surgery compared to baseline value. **Results:** In both the groups SjVO₂ values were comparable and on higher normal level. Mean arterial pressure (MAP) was found to be significantly lower in Group P compared to those in Group S ($P < 0.05$). Brain relaxation score were comparable between the groups. A significant difference was found between the baseline value and value at the end of surgery in group S ($P = 0.040$). **Conclusion:** Cerebral oxygenation measured by SjVO₂ and brain relaxation was comparable when anaesthesia was maintained with propofol or sevoflurane. Significant reduction in MAP by propofol needs attention in patients with TBI. Decrease in level of IL-6 at the end of surgery compared to baseline value may suggest neuroprotective potential of sevoflurane.

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Anaesthetic management of intracranial aneurysm in patient with coarctation of aorta

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Introduction: Intracranial aneurysms are more often found in patients with coarctation of aorta (COA) than in general population. Aneurysm rupture occurs much earlier in these patients. Here, two cases of ruptured cerebral aneurysms associated with COA are presented. The aneurysms were successfully clipped in acute stage prior to correction of coarctation. Patients with COA should have screening for early diagnosis of cerebral aneurysms. Ruptured aneurysm should be treated as early as possible. Unruptured aneurysm should also be treated before aortic repair, if general condition of patient allows. **Case Summary:** Case 1: 14 year old boy presented with sudden onset headache followed by loss of consciousness. BP was 210/100 mm of Hg, very feeble femoral pulses. Contrast CT scan brain revealed ruptured distal anterior communicating artery aneurysm. Aortogram revealed total obstruction in descending thoracic aorta distal to origin of left subclavian artery. Clipping of aneurysm was planned first, followed by COA repair. Patient was discharged after complete recovery. Case 2: 15 year old boy presented with sudden onset headache, vomiting, one GTCS episode. BP was 180/130 mm of Hg. Cerebral CT angiography revealed saccular aneurysm from anterior

communicating artery. CT aortogram reported preductal COA. Clipping of aneurysm was performed successfully. **Conclusion:** Early diagnosis and repair of COA prevents cerebrovascular complications; although aneurysm can occur even after COA repair. Recent advances in anaesthesia and neurosurgical techniques allow surgery of ruptured cerebral aneurysm in presence of untreated coarctation with relative safety.

ISNACC-S-16

Effect of transcutaneous electrical nerve stimulation on intraoperative fentanyl and propofol consumption in patients undergoing lumbar discectomy

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Introduction: Transcutaneous electrical nerve stimulation (TENS) is a non-invasive electrotherapy technique used to treat acute and chronic pain with a special device that delivers electrical impulses to the skin. Numerous studies have been published for the use of TENS in acute postoperative pain with varying duration of pain relief after TENS, but, it is not clear if TENS is applied preoperatively, how long its effect lasts. This randomised, placebo controlled trial was carried out with the objectives of finding out effect of TENS on intraoperative fentanyl and propofol consumption and postoperative analgesic requirement in patients undergoing lumbar discectomy. **Methods:** Sixty patients were randomised to two groups i.e. TENS group (Group T) and Sham TENS group (Group S). A conventional TENS current in the form of biphasic square pulse was used at a frequency of 100 Hz and pulse width of 250 micro seconds. The intensity of electrical stimulation was at 20 milli Ampere (mA) for the T group and 0 mA for the S group by the blinded anaesthesiologist. Standard protocols were followed for induction and maintenance of anaesthesia. Heart rate, blood pressure, and BIS were noted regularly after induction. Primary outcome was to compare of the effect of TENS on intraoperative fentanyl requirement and secondary outcomes were its effects on intraoperative propofol consumption and postoperative analgesic requirement. **Results:** Thirty one patients were studied in group T and 29 patients in group S. Demographic data, duration of surgery, total dose of fentanyl and propofol requirement, blood loss, and the recovery times were comparable between the 2 groups. The mean VAS scores on rest and movement before application of TENS preoperatively were 4.71 and 5.9 in group T which significantly reduced after application of TENS to 3.06 and 3.42 respectively. However in the Sham TENS

group the mean VAS score did not change significantly. The mean fentanyl consumption in group T was 2.05 ± 0.47 mcg/kg (microgram per kilogram body weight) in group T and 2.20 ± 0.61 mcg/kg in group S ($p = 0.27$). The mean propofol consumption was 120.39 ± 28.91 mcg/kg/min (microgram per kilogram body weight per minute) in group T, and 117.10 ± 17.91 mcg/kg/min in group S ($p = 0.6$). **Conclusion:** Application of TENS significantly reduced the pain in term of decrease in VAS score at rest and movement preoperatively, but the same did not translate into any decrease in intraoperative analgesic or anaesthetic requirement, and neither there was any decrease in postoperative analgesic requirement in patients undergoing lumbar discectomy.

ISNACC-S-17

Incidence of hypotension in neuro anaesthesia practice in a tertiary care hospital - A retrospective analysis

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Introduction: This retrospective analysis was aimed at estimating the incidence of hypotension in patients undergoing neurosurgery under general anaesthesia and evaluating the causes of hypotension. **Methods:** Data stored in the computerised Anaesthesia Information Management System was analysed. All patients who underwent neurosurgery under general anaesthesia between 01 Jan 2015 to 31 Dec 2016 were included. Demographic, clinical and haemodynamic data was extracted from these records. Hypotension was defined as MAP less than 65 mm Hg. Charts of patients with hypotension were further evaluated for causes and severity. **Results:** A total of 856 patients underwent neurosurgical procedures under general anaesthesia during the study period (451 male/405 female). Hypotension occurred in 248 patients (28.97%). 121 (14.1%) patients had transient post induction hypotension requiring three or less 50 mcg aliquots of phenylephrine. 127 (14.8%) patients had sustained hypotension due to other causes which required an infusion of vasopressors/ inotropic agents to sustain blood pressure. Three patients had severe refractory hypotension which required surgery to be stopped. **Conclusion:** Hypotension occurred in 55.5% of patients undergoing lateral thoracotomy with one lung ventilation and in 52.7% of patients undergoing decompressive craniotomy. 33% patients undergoing surgery in prone position also had significant hypotension as opposed to 13% of patients in all other positions combined.