**Perfusion Index versus Non-Invasive Hemodynamic Parameters during Insertion of I-Gel, Classic Laryngeal Mask Airway and Endotracheal Tube.**

**Background**
Perfusion index (PI) is a non-invasive numerical value of peripheral perfusion obtained from a pulse oximeter. In this study, we evaluated the efficacy of PI for detecting haemodynamic stress responses to insertion of i-gel, laryngeal mask airway (LMA) and endotracheal tube and compare, its reliability with the conventional haemodynamic criteria in adults during general anaesthesia.

**Methods**
Sixty patients scheduled for elective general surgery under general anaesthesia were randomised to three groups. (i-gel, LMA and ET groups (n=20/group). Heart rate (HR) (positive if ≥10 bpm), systolic blood pressure (SBP), diastolic blood pressure (DBP) (positive if ≥15 mm Hg) and PI (positive if ≤10%) were monitored for 5 min after insertion.

**Main Outcome Measures**
SBP, DBP, HR and PI were measured before induction of anaesthesia and before and after insertion of the airway device.

**Results**
Insertion of airway devices produced significant increases in HR, SBP and DBP in LMA and ET groups. Moreover, PI was decreased significantly by 40%, 100% and 100% in the three groups. Using the PI criterion, the sensitivity was 100% (CI 82.4-100.0%). Regarding the SBP and DBP criterions, the sensitivity was 44.4% (CI 24.6-66.3%), 55.6% (CI 33.7-75.4%) respectively. Also, significant change in the mean PI over time (from pre-insertion value to the 1(st) min, 3(rd) min, until the 4(th) min after insertion without regard the device type), (P<0.001).

**Conclusion:**
PI is a reliable and easier alternative to conventional haemodynamic criteria for detection of stress response to insertion of i-gel, LMA and ET during propofol fentanyl isoflurane anaesthesia in adult patients.