Recent mothods in attenuation of Pressor Effect of laryngoscopy and tracheal

Ahmed Mohamed Shaat

Pressor effects of laryngoscopy and tracheal intubatioi (II) are dueto reflex sympatho-adrenal discharge provoked by epil ryngeal andlaryngotracheal stimulation subsequent to laryngoscopy aJ d II, whichresults in hypertension, tachycardia, arrhythmia and a chat ~e in plasmacatecholamine concentrations -leading to a decrease in the I It ventricularejection fraction (stroke volumelend diastolic volume) ane ST-segmentchanges that indicate myocardial ischaemia. These resp ases can beproblematic to patients suffering from cardio-vascular, ce :bro-vascularor abdomino-vascular disease in which hypertension .an lead tohaemorrhage.Sympathetic stimulation from TI also increases the I :P which canbe harmful iII patients with intracranial mass lesions or . icreased ICPfrom other pathology, and increases lOP which is dangerc IS in patientswith impending perforation of eye, perforating eye injuries, nd glaucoma.Control of lOP during ophthalmic surgery or diagnostic tonometry isclinically important, because airway manipulation may , orsen ocularmorbidity or produce misleading results.Many attempts have been made to attenuate the pre sor effects oflaryngoscopy and II including drugs as: General anaesth tics like: (IVthiopentone, propofol, N20 inhalation in oxygen and N20 I halation withpropofol infusion), local anaesthetics like: (IV, nebulizer and tracheallidocaine and nebulized bupivacaine), IV opioids lie: (fentanyl,alfentanil, sufentanil, remifentanil, buprenorphine ar 1 tramadol),selective P-I adrenoceptor blockers like: (IV esmolol), Cl cium channelblockers like (sublingual nifedipine, IV verapamil and IV iltiazem), a-2adrenoceptor agonists like: (oral and IV clonid ie and IVdexmedetomidine) and vasodilators like: (IV sodium nit! ,prusside, IV,topical and intranasal nitroglycerin and isosorbid dinitrate t :rosol into thebuccal mucosa)The pressor response to fiberoptic orotracheal intub tion is similarto orotracheal intubation facilitated by the Macintosh laryng scopy blade.The intubating stylet is used during rapid sequence intubations orwhenever the haemodynamically stressful time of laryng scopy is bestminimized (e.g., cardiac anaesthesia or neuroanaesthesia).Lightwand intubation, which does not require a 1: yngoscope toelevate the epiglottis, has shown faster times to int bation, fewerintubation attempts and less trauma than direct lary goscopy, andsignificantly attenuates the pressor resonse to TI in normo msive patientsand also during awake TI. LW intubation is more effective than fibreopticintubation in attenuating the pressor response to TI u normotensiveelderly patients, however, in hypertensive elderly patier s; there is nodifference between the two techniques. Both devices sre

useful forintubation in hypertensive elderly patients because the RP . is maintainedwithin acceptable limits with both devices.The LMA offers a safer and more effective option 1 IanTI becauseit rarely requires direct laryngoscopy, clearly decreasiJ: : this type oftrauma and it is one major reason for the observed attl mated pressorresponses to LMA. The ll-MA attenuates the haemo iynamic stressresponse to TI compared with the Macintosh laryngoscope.The c:uffed oropharyngeal airway (COPA) causes ess pharyngealtrauma thalli the LMA and is associated with smaller cardiovascularchanges after airway insertion compared with the LMA.Superior laryngeal n. and glossopharyngeal n. b icks are also'effective methods in blunting adverse haemodynamic resp nses. Superiorlaryngeal n. block is appropriate for patient requir 19 TI beforeanaesthetic induction and glossopharyngeal n. block c n be used inpatients who need atraumatic, sedated, spontaneou y ventilating,"awake" TI.