	16.7			(S)	17.7			(NS)	17.2			(S)
10 min	128.6± 17.3	14.2	12%	<0.01 (S)	106.9± 13.0	9.3	8%	<0.01 (S)	123.1± 12.0	5.2	4%	<0.05 (S)

Table 6: Intergroup comparison of SBP changes

	*A – B	**A - C	#B - C
Baseline	0.79 (NS)	0.41 (NS)	0.8 (NS)
Pre induction	<0.01 (S)	1.0 (NS)	<0.01(S)
During D/L (0	<0.01 (S)	0.014 (S)	<0.01(S)
1 min	<0.01 (S)	0.82 (NS)	<0.01(S)
3 min	<0.01 (S)	0.3 (NS)	<0.01(S)
5 min	<0.01 (S)	0.2 (NS)	<0.01(S)
10 min	<0.01 (S)	0.22 (NS)	<0.01(S)

Mean arterial pressure (MAP) showed significant attenuation during intubation in clonidine group as compared to gabapentin and placebo group. MAP in group B returned to almost baseline after 3 minutes, not seen in other two groups(table 7).There was no stastically significant difference in MAP values when placebo compared to gabapentin group(table 8).

Table 7: Intragroup Comparison of changes in mean MAP (mmHg)

	Group A n =36				Group B n =37				Group C n =37			
	Mean ±SD	Diff from BL	% diff	P value	Mean ±SD	Diff from BL	% diff	P value	Mean ±SD	Diff from BL	% diff	P value
Baseline	88.9± 9.3	-	-	-	89.9± 8.4	-	-	-	90.4± 8.4	-	-	-
Pre induction	95.5± 10.1	6.6	7%	<0.01 (S)	84.7± 7.9	5.2	6%	<0.01 (S)	95.6± 9.0	5.2	6%	<0.01 (S)
During D/L (0 min)	128.8± 8.8	39.9	45%	<0.01 (S)	101.5± 11.7	11.6	13%	<0.01 (S)	122.4± 14.5	32	35%	<0.01 (S)
1 min	118.3± 10.0	29.4	33%	<0.01 (S)	99.3± 14.0	9.4	10%	<0.01 (S)	120.7± 13.3	30.3	34%	<0.01 (S)
3 min	111.7± 10.8	22.8	26%	<0.01 (S)	91.5± 14.7	1.6	2%	0.53 (NS)	109.3± 14.3	18.9	21%	<0.01 (S)
5 min	104.4± 10.7	15.5	17%	<0.01 (S)	86.0± 13.7	+3.9	4%	0.11 (NS)	101.1± 12.2	10.7	12%	<0.01 (S)
10 min	98.9± 9.9	10.0	11%	<0.01 (S)	84.6± 8.9	+5.3	6%	<0.01 (S)	95.1± 9.1	4.7	5%	<0.05 (S)

Table 8: Intergroup comparison of MAP changes

	A – B*	B – C**	A – C#
Baseline	0.87(NS)	0.73(NS)	0.96(NS)
Pre induction	<0.01 (S)	<0.01 (S)	1.0 (NS)
During D/L(0 min)	<0.01 (S)	<0.01 (S)	0.06 (NS)
1 min	<0.01 (S)	<0.01 (S)	0.71 (NS)
3 min	<0.01 (S)	<0.01 (S)	0.72 (NS)
5 min	<0.01 (S)	<0.01 (S)	0.49 (NS)
10 min	<0.01 (S)	<0.01 (S)	0.2(NS)

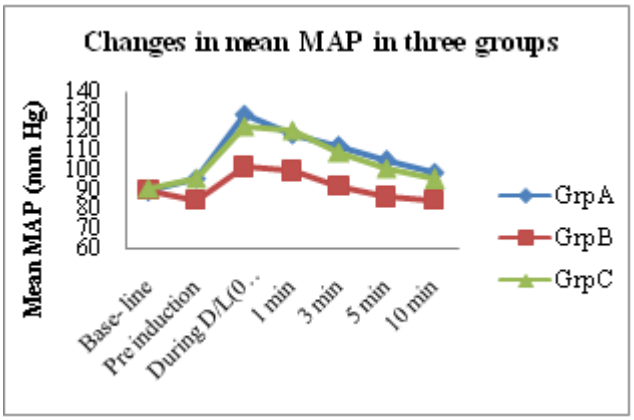

Figure 3

5. Discussion

Stress and anxiety activate hypothalamous-hypophysis-adrenal axis and increase glucocorticoid level. Interventions to reduce preoperative anxiety include pharmacological therapy, provision of information, distraction, attention focusing, and relaxation prodedures. Laryngoscopy & intubation can cause striking changes in hemodynamics probably as a result of intense sympathetic nervous system responses to stimulation. Clonidine and other α-adrenoceptor agonists like dexmedetomidine are under intense investigation as an adjunct to anesthesia.[13] Hypnotic-sedative, analgesic and anxiolytic actions of clonidine may be modulated via the α2A adrenoceptor subtype[17].By its central sympatholytic action, it tends to attenuate the hemodynamic response to any surgical nociceptive stimulus and to improve overall perianesthetic cardiovascular stability[18].Gabapentin was introduced as an antiepileptic drug in 1993. The mechanism by which gabapentin attenuates the pressor response to laryngoscopy and intubation is unknown, the drug inhibits membrane voltage-gated calcium channels, thus acting in the manner similar to calcium channel blockers[19]. The aim of the present study was to evaluate and to compare the effect of clonidine and gabapentin on preoperative anxiolysis and attenuating stress response to laryngoscopy and intubation in ASA 1&2 patients undergoing elective surgery.

In our study the demographic data with respect to age, sex, ASA grade, were comparable in the three groups (Table 1). We choose VAS scale because it is easy to assess and reliable. Patient was given a scale marked from **0 to 100** and asked to mark on the scale the degree of anxiety he or she is experiencing ranging from`No anxiety at 0 to Maximum anxiety at 100 point`.**Hidalgo et al** [20] observed decrease in anxiety in clonidine group(100ug) compared to placebo group which was statistically significant ($p<0.05$). We observed similar results in our study. In our study decrease in mean VAS anxiety score in clonidine group was 54% compared to placebo group (14%) which is statistically significant ($p<0.05$). **Christophe Ménigaux et al**[21] found that preoperative VAS anxiety scores were lower in the Gabapentin group (1200 mg) than in the Control group ($P < 0.0001$). Our study also shows statistically significant ($p<0.05$) decrease in VAS anxiety scores in gabapentin group (900 mg) i.e. 26% compared to placebo group (14%). The effect of clonidine on hemodynamic parameters is similar to the study done by **H.Talebi et al**[22]. They observed decrease in HR and SBP with clonidine 200 mcg compared to placebo group which is highly significant. **Fassoulaki A et al** [23] observed that gabapentin 1600 mg given at various time intervals decreases blood pressure but HR did not differ at all time intervals. But in our study gabapentin 900 mg did not show significant difference in hemodynamic parameters compared to placebo. **Memis et al**,[24] found a single dose of 800 mg of gabapentin, administered orally 1 hour before surgery to be effective in attenuating the hemodynamic responses to laryngoscopy and intubation. On the contrary we did not find significant attenuation of HR & BP in gabapentin group (with 900 mg dose). **Seyed Mojtaba et al**[25] evaluated the effect of clonidine 200 mcg and gabapentin 900 mg premedication in modifying the hyperdynamic response following laryngoscopy and tracheal intubation and found that both clonidine and gabapentin have effective role in blunting hyperdynamic responses after laryngoscopy, more so with gabapentin. Our study is contrary in our study we used 300 mcg clonidine and 900 mg gabapentin and found better attenuation of pressor response with clonidine which was statistically significant($p<0.01$) compared to gabapentin. A study done by **S.K. singhal et al**[26] is similar to our study, comparing the effects of oral clonidine200mcg and oral gabapentin 900mg observed that clonidine is better than gabapentin in preoperative anxiolysis and attenuating stress response to tracheal intubation. Both clonidine and gabapentin have certain adverse effects.. Most common side-effects with clonidine are dry mouth and sedation, hypotension and marked bradycardia.[27]The most frequent side-effects reported with gabapentin are somnolence, dizziness, ataxia, fatigue, unsteadiness, headache and nausea[28].It is also pertinent to mention here that these side-effects are transient and usually abolish on their own. [20] However in our study we noted high incidence of dryness of mouth (50%) in clonidine group.Other side effects observed in clonidine group were hypotension(15%) and bradycardia(20%).In Gabapentin group we also observed significant side effects as somnolence(50% cases) and dizziness(5% cases).

6. Conclusion

From the present study we conclude that Clonidine, an alpha-2 agonist, when administered 90 minutes prior to surgery, in a dose of 300 micrograms, is effective in decreasing preoperative anxiety and blunting stress reponse to laryngoscopy and tracheal intubation compared to 900 mg of gabapentin.

7. Future Scope

However there is scope of measurement of stress mediators in plasma during intubation. Dose related study to confirm the optimal per kg dose of gabapentin.

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