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THE COMPARISON OF ONE MEDICATION OF OMEPERPRAZOLE (20MG) WITH ESOMEPRAZOLE (40MG) FOR THE DIAGNOSIS OF GASTRIC ACIDITY

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Abstract:
Objective: *We aimed in this analysis to match and calculate the efficacy of one medication of omeprazole 20 mg and esomeprazole 40 mg on stomach.*
Study design: *A comparative type of randomized case control study.*
Place and duration: *This analysis was carried out in the operation theater of Mayo Hospital in Lahore after the verification by hospital ethics committee and IRB of King Edward Medical University Lahore for the duration of 6 months from June 2018 to December 2018.*
Material and Methods: *Number of 50 patients of ASA class p1 and p2 condition were sorted in this analysis after taking written agreement form with the age ranging from 15 years to 60 years and body mass index BMI 20.0 kg to 35.0 kg per m2 suffering from inguinal hernia operation electively having both genders. Patients were separated by the number of 25 both into two groups named as group O and group E consisting omeprazole 20 mg and esomeprazole 40 mg respectively medicated to all patients of each group respectively before operation night at 10:00 pm and were suggested to stay at complete bowel rest. A multi-orifice nasogastric tube 16F was inserted in the stomach and proven by auscultation over the upper and median part of the abdomen, lying over the stomach by air 10 ml in the morning after the processing of usual anesthesia. Gastric liquid was collected in a sterile injection and forwarded in a sterile test tube. pH was examined through calibrated pH paper and was verified by pH meter. Nasogastric tube was then taken off.*
Results: *The physical statistics of both groups were expressed like Average ± SD and remain significant in the groups definite as shown in table no 01 and table no 02. Median range of gastric liquid pH was 4.5 with the value between 1.5 to 7.0 in group O and 7.0 with the value between 3.0 to 8.0 in the group E as shown in table no 03 where the value of P was indefinite. Number and percentage of patients in danger that is 4 out of 25 patients at danger in group o and no case was observed at danger in group E as shown in figure A and the association of duration of premedication with the pH meter of group O was determined through figure B. No relevant variations of intragastric pH are observed through raising the time of premedication. Hence the outcomes persist slightly different. The duration of premedication was raised the intragastric pH persists mostly more than value of 2.5 in each patient as observed through the figure C. In the group O and Group E the average range of gastric liquid pH was 4.5 where range was 1.5 to 7.0 and 7.0 where range was 3.0 to 8.0 respectively. The value of P was indefinite.*
Conclusion: *One medication of 40 mg Esomeprazole taken by mouth at the time of rest before operation has similar effectiveness in raising the intragastric pH as one medication of 20 mg Omeprazole taken by mouth.*
Key Words: *Esomeprazole, omeprazole, Gastric pH, Medication, Anesthesia.*

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INTRODUCTION:

Respiratory suction of stomach or intestinal organs is a dangerous cause of complexities in general anesthesia. Its harshness is associated with density and pH of gastric liquid sucked out and the main reasons that force the patient for suction through syringe [1,2]. The hazard of intestinal suction might be decreased through recognition of patients at danger, fasting before operation pharmacological involvements and taking of different anesthetic exercises. Gastric acidity might be at maximum after fasting of midnight when patient get toward the surgery room refers to maximum danger of acidic liquid suction. The description of asthma such as syndrome in obstetric cases sucking gastric organs at the processing of anesthesia and stated patients with the number of 66 were of airway hindrance in an observation by Mendelson in the year 1946 [3]. Teabeaut described in mice that once the pH of aspirated material gets down less than 2.4 then typical syndrome progresses [4]. Proton pump inhalers are medicines that give gastric acid destruction and control pH of above than 4 for the period of 18 hours per day to 24 hours per day [5]. Various medicines as omeprazole, lansoprazole, rabeprazole, esomeprazole and pantoprazole are processed for reduction of the gastric acid secretion and raising the pH of gastric juice therefore decreasing the influence of aspiration [6-11]. This analysis was carried out for the prediction and matching sensitivity of one medication of omeprazole 20 mg and esomeprazole 40 mg both taken orally for the treatment of gastric pH in the patients suffering from elective inguinal hernia operation through general anesthesia.

METHODOLOGY:

This analysis was carried out in the operation theater of Mayo Hospital in Lahore after the verification by hospital ethics committee and IRB of King Edward Medical University Lahore for the duration of 6 months from June 2018 to December 2018. Number of 50 patients of ASA class p1 and p2 condition were sorted in this analysis after taking written agreement form with the age ranging from 15 years to 60 years and body mass index BMI 20.0 kg to 35.0 kg per m2 suffering from inguinal hernia operation electively having both genders. Patients were separated by the number of 25 both into two groups named as group O and group E consisting omeprazole 20 mg and esomeprazole 40 mg respectively medicated to all patients of each group respectively before operation night at 10:00 pm and were suggested to stay at complete bowel rest. A multi-orifice nasogastric tube 16F was inserted in the stomach and proven by auscultation over the upper and median part of the abdomen, lying over the stomach by air 10 ml in the morning after the processing of usual anesthesia. Gastric liquid was collected in a sterile injection and forwarded in a sterile test tube. pH was examined through calibrated pH paper and was verified by pH meter. Nasogastric tube was then taken off. Total selected patients were examined through Temperature, ECG, SPO2, NIBP and prevented intravenous process by 18 G cannula in the surgery room. At the body temperature of value 15 ml per kg, ringer lactate was instilled. Total selected patients were given pre-oxygen in the last 3 minutes. Medication was processed through intravenous 0.1 mg per kg of nalbuphine, 5.0 mg per kg of pentothal and simplified the placement of a flexible plastic tube into the windpipe through intravenously 0.5 mg per kg of atracurium. Through oxygen with the percentage of 50.0 %, isoflurane with the percentage of 1.5 % and N2O, anesthesia was controlled. A multi-orifice nasogastric tube having size of 15 F was inserted in the stomach and confirmed through sucking into the epigastrium by air with the value of 10.0 ml. Patients were got to back condition from anesthesia through 35.0 Eg per kg and 20.0 Eg per kg values of neostigmine and atropine after the end of operation process. Information was observed through SPSS 15. The conditions of patients were expressed like Average ± Standard Deviation. Gastric pH was matched through student t-test. The value of P was taken as definite.

RESULTS:

The physical statistics of both groups were expressed like Average ± SD and remain significant in the groups definite as shown in table no 01 and table no 02. Median range of gastric liquid pH was 4.5 with the value between 1.5 to 7.0 in group O and 7.0 with the value between 3.0 to 8.0 in the group E as shown in table no 03 where the value of P was indefinite. Number and percentage of patients in danger that is 4 out of 25 patients at danger in group o and no case was observed at danger in group E as shown in figure A and the 0association of duration of premedication with the pH meter of group O was determined through figure B. No relevant variations of intragastric pH are observed through raising the time of premedication. Hence the outcomes persist slightly different. The duration of premedication was raised the intragastric pH persists mostly more than value of 2.5 in each patient as observed through the figure C. Details are given in following tabular forms.

Table No 01: Physical Conditions of Patients in Group O

Characteristics	Median	Mean	±SD	Range
Age (years)	30	32.8	12.75	16 to 60
Weight (kg)	68	66.32	6.91	55 to 72
Height (cm)	154	156.68	4.81	148 to 170
NPO period (hours)	12	12.28	1.72	10 to 15
BMI kg/ m^2	28.67	27.02	3.06	24.91 to 32.87

Table No 02: Characteristics of Group E

Characteristics	**Median**	**Mean**	**SD**	**Range**
Age (years)	28	29.88	9.11	16 to 45
Weight (kg)	70	69.56	5.75	55 to 76
Height (cm)	165	163.8	10.64	148 to 180
NPO period (hours)	12	12.8	1.38	10 to 15
BMI kg/ m^2	25.71	25.92	3.21	23.45 to 34.69

Table No 03: pH Of Gastric Liquid

Group	Median	Mean	SD	Range
Group O	4.5	4.32	1.56	1.5 to 7.00
Group E	7.0	6.40	1.60	3.0 to 8.00

Table No 04: Percentage of Patients at Danger

Group	Percentage
Group O	**16.0 %**
Group E	**0.0 %**

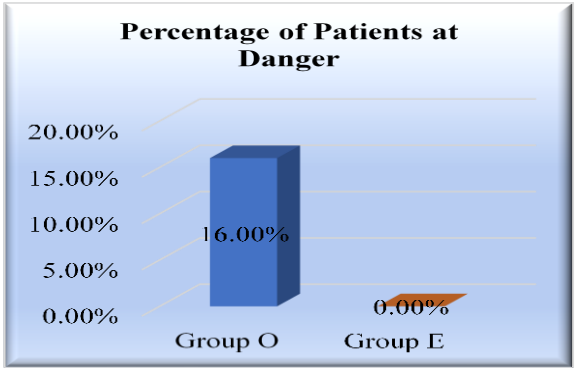


Figure B: Premedication Period to Time of pH Marty Relationship (Group O)

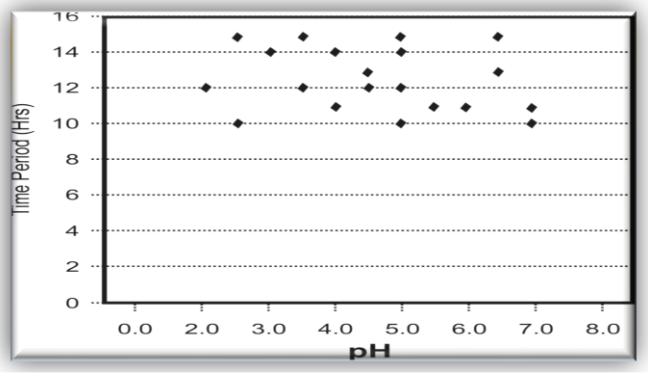
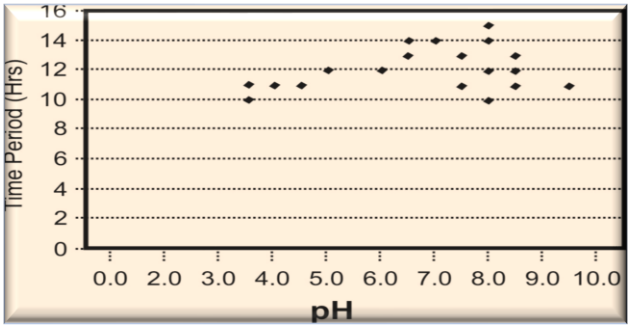


Figure C: Premedication Period to Time of pH Marty Relationship (Group E)



DISCUSSION:

The suck out of gastric liquid is a main factor for usual anesthesia associated death rate and disease [12]. Given diagnosis for suck out might be determined in few operation s like cesarean operation [13,14]. Various pharmacological representatives were processed to reduce the intragastric liquid density and to raise the pH of intragastric liquid. This analysis was objected to enhance the excellence of anesthesia medication and to decrease complexities of acidic gastric pH of in respiratory suck out of gastric liquids. We have not observed definite variation relating raise in pH of gastric liquid through medication with omeprazole and esomeprazole by our analysis. Just 1 patient was excluded from our analysis because of the existence of skin rash which very usual complexity of PPI. The outcomes of analysis by Miehlke S et al are similar with the outcomes of our analysis. they almost haven't observed any similarity according to statistics variation in intragastric pH through the usage of esomeprazole and omeprazole [15]. The outcomes of Cruickshank RH et al who defined that the omeprazole has a reaction in prophylaxis for suck out of acid syndrome while processed in the nervous system through syringe before 1 hour of operation as it raised pH of gastric liquid as similar with our studies [16]. Bowel medication of omeprazole 60 mg given before operation reduced the density of gastric liquid and raised pH above than value of 2.5 probably decreasing the influences of respiratory suck out of gastric liquid in the analysis of Gouda BB et al as the same as above analysis [17]. Maximum raise in gastric pH through omeprazole versus ranitidine while used in urgency caesarian operation was almost observed by Tripathi et al [18]. The outcomes of analysis completed by Bunno M et al were in accordance with the outcomes of our analysis as they processed two of each esomeprazole and omeprazole and observed secure and proficient profiles of rebamipide in addition of esomeprazole and rebamipide and omeprazole same as to diagnose endoscopic sub-mucosal separation of developed cancers [19]. The actions of ranitidine and omeprazole taken through bowel for gastric pH and density in patients suffering from elective operation were matched by Levack ID et al and no definite variation was observed among both groups [20]. The outcomes of our analysis were randomly supported by their outcomes relating to the efficacy of two groups of medications. The outcomes of analysis by Chen et al who matched 40 mg esomeprazole with omeprazole 20 mg and observed esomeprazole more useful than omeprazole [21]. This would be because of various methods like Chen processed the medicines for treatment of erosive esophagitis for 8 weeks and we

evaluated the sensitivity of medicines on gastric pH when processed in the night earlier to operation. Most of the analysis observed maximum elevation of gastric pH and resumed acid administration by esomeprazole versus else medicines as similar with our analysis. Dent J stated greater sensitivity of 40 mg esomeprazole versus 20 mg omeprazole to gain a pH of value 4.22 by a revised article. Esomeprazole was matched with 40 mg pantoprazole and observed that esomeprazole was useful than 40 mg pantoprazole by Armstrong [23] maximum elevation of gastric pH and better acid administration through esomeprazole while matched with Lansoprazole, was observed by Wilder – smith C et al [24]. A little matching of these analysis with our analysis would be due to discrepancy in sorting of patients and period of processing of medicines. We advise requirement of more bigger sampling size of analysis for the observation of most exact outcomes in relating to suck out prophylaxis of gastric liquid.

CONCLUSION:

It is concluded by this analyzation that one medication of 40 mg esomeprazole taken by mouth processed in the night earlier to operation raises the intragastric pH like 20 mg omeprazole. Therefore, two of the medicines have a part in premedication to secure suck out of acid at the period of processing of usual anesthesia and have almost similar effectiveness.

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