

## AGE a Factor in Determining the Prognosis in Survival in Hollow Viscus Perforation in South India

Abhilash Gautham Ramesh<sup>a</sup>, Ashrith Iyanahally<sup>b</sup>

<sup>a</sup>Assistant Professor, Department of Surgery, Shimoga Institute of Medical Sciences, Shimoga, Karnataka 577201, India.  
<sup>b</sup>Assistant Professor, Department of Surgery, Mount Zion Medical College, Trivandrum, Kerala 605036, India.

### Abstract

Age is one of the important prognostic factor in determining survival in hollow viscus perforation. We conducted the study to analyze the role of age in determining survival. *Materials and Methods:* A prospective survey of patients with acute generalized peritonitis due to hollow viscus perforation was carried out in general surgical wards of our institute during the period starting from January 2014 to September 2015. Study population consisted of 150 consecutive patients with perforative peritonitis, which confirmed on emergency laparotomy. *Statistical Analysis:* Data entry and management was done in Excel sheet. After cleaning and coding the data was transferred to Single master sheet and statistical analysis was done using the SPSS 19 version software. *Results and Conclusion:* Age of the patients in the study ranged from 16 years to 75 years. The mean age of the patients at the time of admission is 42.4 (SD 16.4). Highest mortality is in the age group of > 70 years, (62.5%). There were 8 patients in this age group out of which 5 patients died. Lowest mortality (18.75%) is seen in age group of 30-39 years. 4 of 9 patients (MR=44.4%) died in age group of 16-20 years. Mortality rate of 34.48% (10 of 29 patients) seen in age group of 60-69 years. Similarly 26.32% (5 of 19 patients) of mortality rate between 50-59 years, 26.09% (6 of 23 patients) between 40-49 years and 20% (6 of 30 patients) in 21-29 years. Thus in our study mortality rate is more in either extremes of age and with increase in age.

**Keywords:** Age; Peritonitis; Hollow Viscus Perforation.

### Introduction

Peritonitis also termed as inflammation of peritoneum can present in localized and diffuse forms. Secondary peritonitis is the most common. It is a common surgical emergency in most of the general surgical units, across the world. It is often associated with significant morbidity and mortality [1-5].

The prognosis and outcome of peritonitis depend upon the interaction of many factors, including patient-related factors, disease-specific factors, and diagnostic and therapeutic interventions. Categorizing patients into different risk groups would help prognosticate the outcome, select patients for intensive care and determine operative risk, thereby helping to choose the nature of the operative procedure, e.g. damage control vs. definitive procedure [1-5].

Age is one of the important prognostic factor in determining survival in hollow viscus perforation. We conducted the study to analyze the role of age in determining survival and also to identify age group specific mortality rate.

### Materials and Methods

A prospective study was carried out in general surgical wards of BM Patil Medical College Hospital and Research Centre, Vijayapura (Bijapur), Karnataka, India. Study subjects are the patients with acute generalized peritonitis due to hollow viscus perforation during the period starting from January 2014 to September 2015. Study population consisted

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**Corresponding Author:** Ashrith Iyanahally, Assistant Professor, Department of Surgery, Mount Zion Medical College, Trivandrum, Kerala 605036, India.  
E-mail: [ashrith111@gmail.com](mailto:ashrith111@gmail.com)

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of 150 consecutive patients with perforative peritonitis which were confirmed on emergency laparotomy. Inclusion criteria was Peritonitis secondary to hollow viscus perforation, Age group more than 15yrs, Non traumatic perforative peritonitis. Exclusion criteria was Perforation secondary to abdominal trauma, Primary peritonitis, Post op peritonitis due to anastomotic leak, Perforative peritonitis patients managed conservatively. Diagnosis of peritonitis due to hollow viscus perforation was made by: History, Clinical examination and radiologically (gas under diaphragm). Patient details suggestive of chronic health disorders such as cardiac, respiratory, renal, liver failure and immunodeficiency disorders noted. At the time of admission:

*Statistical Analysis*

Data entry and management was done in Excel sheet. After cleaning and coding the data was transferred to Single master sheet and statistical analysis was done using the SPSS 19 version software. Qualitative data was presented in the form of Proportions and percentages. Quantitative was presented as mean, standard deviation.

**Results**

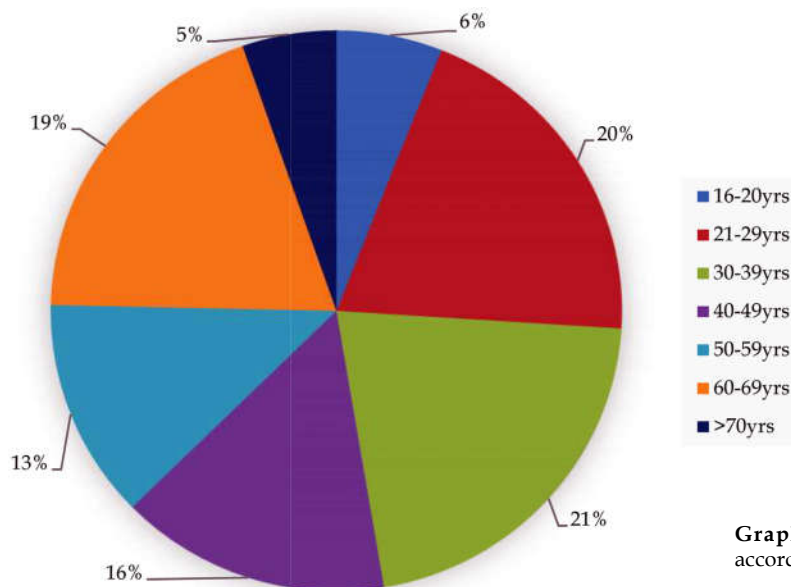
Age of the patients in the study ranged from 16years to 75years. The mean age of the patients at the time of admission was 42.4±16.4years. Maximum number of patients 32(21.33%) were in the age group of 30-39 years, followed by 20% (n= 30) in age group of 21-30 years, 19.33 % ( n=29) in 60-69 years, 15.33 % ( n=23) in 40-49 years. 12.67% (n=19) of cases were in the age group of 50-59 years, 6% (n=9) cases in 16-20 years, 5.33% (n=8) in age group of more than 70 years as depicted in Graph 1.

*Status of Mortality by Age Groups*

The total mortality rate was in the study pollution was 28%, 42 died out 150 patient. Highest mortality is in the age group of >70years, (62.5%). There were 8 patients in this age group out of which 5patients died. Lowest mortality (18.75%) is seen in age group of 30-39 years. 4 of 9 patients (Mortality Rate =44.4%) died in age group of 16-20years. Mortality rate of 34.48% (10 of 29 patients) seen in age group of 60-69 years. Similarly 26.32% (5 of 19 patients) of mortality

**Table 1:** Mortality rate and percentage of survived by age groups

Age groups	Total (N)	Number of survived	Percentage of survived	No of deaths	Mortality rate (MR)
15-20yrs	9	5	55.56	4	44.44
21-29yrs	30	24	80.00	6	20.00
30-39yrs	32	26	81.25	6	18.75
40-49yrs	23	17	73.91	6	26.09
50-59yrs	19	14	73.68	5	26.32
60-69yrs	29	19	65.52	10	34.48
>70yrs	8	3	37.50	5	62.50
Total	150	108	72.00	42	28.00



**Graph 1:** Distribution of subject according to Age group

**Table 2:** Comparison of predominant age group in peritonitis

Study	Predominant age group
Samir Delibegovic et al <sup>6</sup>	21-40 years
Ashis Ahuja et al <sup>1</sup>	21-40 years
C Ohmann et al <sup>7</sup>	50-69years
Our study	21-40 years

**Table 3:** Age group with highest mortality

Studies	Age group with highest mortality
Notash et al <sup>8</sup>	>60 years
C Ohmann et al <sup>7</sup>	>70years
Our study	> 70years

rate between 50-59 years, 26.09% (6 of 23 patients) between 40-49 years and 20% (6 of 30 patients) in 21-29 years.

## Discussion

The prospective study involved 150 patients with secondary peritonitis. Current study considered age range of 16-74 years. Mean age of patients was 42.4±16.4 years. Predominant population (41.33%) was found in age group 21-40 years. Samir Delibegovic et al Ashis Ahuja et al also stated predominant population from age group 21-40 years. C Ohmann et al study showed predominant population in 50-69 years age group as shown in Table 2. Highest mortality in our study was in the age group of > 70 years (62.5%). Notash et al [8] also stated mortality (58.8%) being more in >60 years of age C Ohmann et al [7] cited highest mortality in age >70 yrs with 37% as shown in table 23. In our study it was observed that mortality rate increases with increase in age.

## Conclusion

We can conclude from our study that perforation is more common in young patients at their prime age. In our study it was observed that mortality rate increases with increase in age.

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