

Original Research Article

DEMOGRAPHIC PROFILE, DIAGNOSTIC PATTERN AND COST EXPENDITURE OF SHRI AMARNATH JI YATRI PATIENTS ADMITTED AT A TERTIARY CARE HOSPITAL OF NORTH INDIA DURING THE YATRA PERIOD OF 2023

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ABSTRACT

Background: The challenges faced by the pilgrims who visit the cave are multifaceted. Firstly, the high altitude, rough terrain, harsh weather, lack of adequate health care infrastructure. Secondly the devotees/pilgrims come from all over India and also abroad. So there are different morbidity profiles, different language, lack of social support.

Materials and Methods: A prospective study was carried out at SKIMS wherein all pilgrims of Shri Amarnath Ji Yatra who were referred to SKIMS from July-August 2023 were studied for their profile, cost expenditure and outcome of the treatment.

Results: Out of total 146 patients received, 21(14.3%) were having cardiac symptoms and among those 21 patients, ten,^[10] had to undergo interventional procedures. The stents were placed in 08 patients and dual chamber pacemaker in 02 patients.

Conclusion: The present study shows that two groups of patients dominate; one with high altitude pulmonary edema and another with cardiac disease having acute coronary syndrome (ACS). It was seen that HAPE and ACS cases were handled well at the base camp. The no. of referred patients had decreased significantly in present study which may be attributed to better pre yatra health checkup and up gradation of health care facilities enroute Amarnath cave.

Keywords: Amarnath ji, Pahalgam, Acute Coronary Syndrome.

INTRODUCTION

The abode of Lord Shiva, popularly known as Shri Amarnathji Shrine is Situated in J&K Union Territory. The holy shrine is situated at around 13000 feet above sea level at southern side of Zojilla and west of Machoi glaciers in the lap of beautiful Himalayas.

The holy shrine holds enormous significance for the devotees of lord shiva. Shri Amarnathji yatra symbolically commences on the auspicious day of Jyestha Purnima and is performed in the month of

Shravan with its conclusion on Raksha bandhan (Shravan Purnima). Each year in the month of Shravan (July-August) devotees of lord shiva from all over India and abroad pay obeisance at the holy cave shrine of Shri Amarnathji.

The traditional route starts from pahalgam in Kashmir and is believed that lord shiva took this path to holy cave. The shorter nontraditional and alternative route is via baltal. The holy cave is 12 kms from its base camp baltal. Baltal is a scenic place located near the banks of river Sindh and approx. 15 kms north of sonamarg Helicopter

services are also available during yatra on both routes. Heli services operate between pahalgam and panjtardini, between Neelgrath (near sonamarg) and panjtardini.& between Sheeshnag and Pahalgam Although medical facilities are set up in the yatra area at regular intervals to provide care to the yatri's and department of health, Govt of J&K usually establishes special medical camps enroute Amarnathji cave but still many yatris are deputed to premier medical institute SKIMS (Sheri-kashmir institute of medical sciences) for specialised treatment.^[1]

“Shri Amarnathji Yatra Nirdeshika” containing Do's and Dont's & health advisory is distributed free of cost to each yatri along with the yatra permit at the time of registration. Pilgrimage at present is being managed by Shri Amarnathji Shrine board (SASB) constituted by an act of legislature in the year 2000. Lakhs of devotees from all over India and even foreign nationals visit the holy cave.^[2]

The challenges faced by the pilgrims who visit the cave are multifaceted. Firstly, the high altitude, rough terrain, harsh weather, lack of adequate health care infrastructure. Secondly the devotees/pilgrims come from all over India and also abroad. So there are different morbidity profiles, different language, lack of social support. Thirdly because of the inadequate civic amenities like space (close contact of yatri's in camps and other temporary make shift accommodations), yatri's are prone to many illnesses.^[3]

SKIMS authorities always remain in coordination with officials of SASB and the institute prepares itself every year to provide the best treatment to Shri Amarnathji Yatri's who are referred to SKIMS from holy cave. The department of Emergency Medicine at SKIMS receives the Yatri's and after initial stabilisation yatri's are admitted in the concerned specialty. The separate ward & staff (medical, nursing & paramedical) is designated for such patients. The ventilators and ICU beds are earmarked for shri Amarnathji yatri patients. The helipad services at SKIMS remain in operational mode throughout the period of yatra and control room of SKIMS coordinates with baltal and panjtardini base camps round the clock. Shri Amarnathji yatri patients are helped by the yatri attendants recruited by SKIMS for this core purpose only. The institute arranges the medicines and equipment's for Yatris from the hospitals own inventory and empanelled external drug source (in case of non-availability within the hospital). The admission charges and all investigations are provided free to the Yatri's by SKIMS while SASB reimburses the amount pertaining to drugs and equipment's which were made available from outsourced vendors.

In order to study the profile, diagnostic pattern of disease and expenditure on Shri Amarnathji Yatri patients, a study was conducted at SKIMS, a post graduate institute for training, research and patient care. SKIMS being deemed university and among

premier medical centres of India with over 1000 bed strength is engaged in providing quality patient care and need based biomedical research to provide patient care of highest order to people of J&K.

MATERIAL AND METHODS

A prospective study was carried out at SKIMS, a 1015 bedded super specialty hospital in UT of Jammu and Kashmir. All pilgrims of Shri Amarnath Ji Yatra who were referred to SKIMS during the yatra period (July-August 2023) were studied. Data was collected and entered in a predesigned and pretested proforma. The details of the yatri patients recorded include gender, age, domicile status, diagnosis, cost expenditure and outcome of the treatment. The patients were followed from admission till discharge/death.

RESULTS

The total number of Shri Amarnathji Yatri patients referred to SKIMS during Yatra period of 2023 were 146. Among them 105 (72%) were males & 41 (28%) were females. [Figure 1]

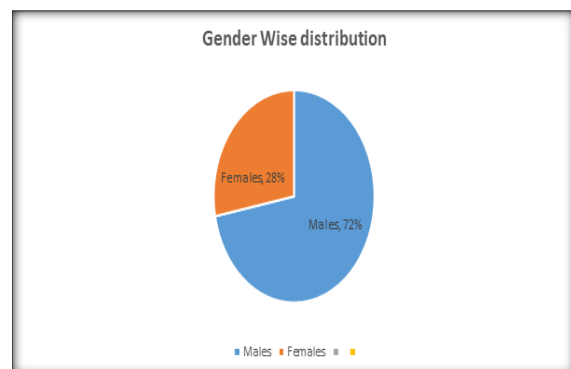


Figure 1: Gender Wise distribution

The age wise distribution of Shri Amarnathji Yatri patients (Table 1) shows that majority of patients admitted were in the age group of 51-60 yrs. (31%), followed by 31-40 yrs. (21.2%), 41-50 yrs. (17.8%), 21-30 yrs. (13%), 61-70 yrs. (11.6%) & 11-20 yrs. (5.4%).

The geographical distribution of Shri Amarnathji Yatri patients received by SKIMS shows that out of total 146 patients admitted, majority belonged to North India (47.2%) with Uttar Pradesh being the most common place. The rest of the Yatri's belonged to West India (22%), Central India (17.2%), South India (7.5%) & East India (6.1%) with Maharashtra, Madhya Pradesh, Karnataka & Bihar being the most common places respectively in these regions [Table 2]

Out of 146 Shri Amarnath Yatri patients received, majority 60 patients (41%) were admitted with a diagnosis of High-Altitude Pulmonary Edema (HAPE), 21 (14.3%) patients admitted with cardiac diseases (Ranges from MI to Heart block), 16 (11%)

of patients with history of trauma from FFH. [Figure 2]

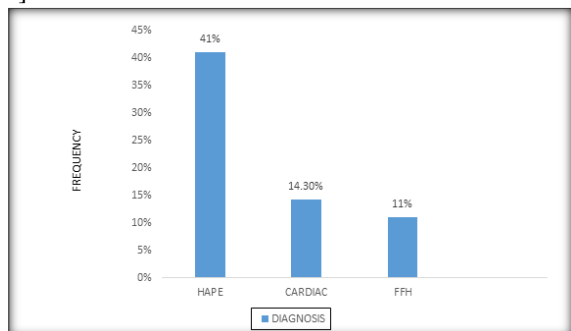


Figure 2: Diagnostic pattern

In addition to above diagnostic categories, other patients were admitted in chronological order with diagnosis of Diabetic Ketoacidosis (4.7%), Community acquired pneumonia (4.1%), Ischemic Stroke (3.4%), seizure disorder & gastroenteritis (2.73%), Alcohol withdrawal & Splenic abscess (2.05%), ARDS & Gastritis (1.3%) and one (1) case each of COPD, Accelerated HTN, Pain Abdomen, GI Bleed, Acute Appendicitis, Acute Pancreatitis, Acute Peritonitis, Acute Hepatitis, Hematemesis, Mesothelioma Lung, Hypotension, Status epilepticus and Substance abuse.

Shri Amarnathji Yatri received by SKIMS were provided standard treatment. The majority patients with a diagnosis of HAPE were managed effectively and discharged after improvement. The 21 Patients with cardiac disease were managed as per Standard protocol. Out of these 21 patients, 10 Yatri patients

were subjected to cardiac intervention. The stents were placed in 08 patients in cardiac Cath Lab of SKIMS after percutaneous coronary intervention (PCI) while dual chamber pacemaker was installed in two patients having heart block. [Table 3a]

The cost of drugs provided to all Shri Amarnathji Yatri Patients admitted at SKIMS with all type of diagnosis during their stay at institute from internal pharmacy & external empaneled source is shown in a table (3b).

Among 146 patients received, 127 (87%) of Shri Amarnathji Yatri patients were received directly from baltal base camp via ambulance. 09 patients were received via chopper at SKIMS Helipad, 05 patients were shifted to SKIMS from GMC Anantnag, 03 patients received from distt Hospital Ganderbal & 02 from SKIMS MC Hospital Bemina. [Table 4]

Out of 146 Shri Amaranth Yatri patients received 137 (94%) were provided appropriate treatment, their symptoms subsided & they were discharged in a better condition 09 patients (6%) expired. Table [5]

The expired patients were provided standard treatment but succumbed to their ailments which include shock, ICH post thrombolysis, cardiogenic Shock, Generalized tonic colonic convulsions, Brain stem bleed, thalamic bleed with I/V extension, MCA with midline shift.

Table 1: Age wise Distribution

Age Group	Frequency	Percentage
11-20	08	5.4%
21-30	19	13%
31-40	31	21.2%
41-50	26	17.8%
51-60	45	31%
61-70	17	11.6%
>70	-	0.00%
Total	146	100.00%

Table 2: Geographical distribution of Shri Amarnathji Yatri Patients

Geographical Area	Frequency	Percentage
North India		
Uttarakhand	03	2.05%
Punjab	11	7.5 %
Haryana	08	5.4%
Rajasthan	09	6.1%
Uttar Pradesh	27	18.4%
Delhi	06	4.1%
Telangana	02	1.3 %
Jammu & Kashmir	03	2.05%
Total	69	47.2%
Central India		
Chhattisgarh	07	4.7%
Madhya Pradesh	18	12.3%
Total	25	17.1%
East India		
Bihar	05	3.4%
Jharkhand	01	0.68%
Orissa	03	2.05%
Total	09	6.2%

West India			
Maharashtra	25		17.1%
Gujarat	07		4.7%
Total	32		22%
South India			
Karnataka	06		4.1%
Tamil Nadu	01		0.68%
Andhra Pradesh	04		2.7%
Total	11		7.5%

Table 3a: Cardiac Intervention procedures & cost

Diagnosis	Frequency	Age group (Yrs.)	No of patients underwent Stenting/PPM	Cost of Cath Lab procedure (In Rs)
Inferior Wall MI (IWM)	04	40-60	04	410,829
Anterior Wall MI (IWM)	04	40-50	04	230,839
Heart Block	02	50-60	02 (PPM)	234,976
Total				876,644

Table 3b: Cost of Drugs utilized for Shri Amarnathji Yatris

Diagnosis	Amount (In Rs)
Total cost of drugs provided from SKIMS Drug Counter	88,290
Total cost of Drugs provided from External drug source	381,527
Total	469,817

Table 4: Referral Pattern of Shri Amarnathji Yatri Patients

Referral mode	Frequency	Percentage
Referred from baltal via Ambulance	127	87 %
Referred from baltal Chopper	09	6.2 %
Referred from GMC Anantnag via Ambulance	05	3.4%
Referred from DH Ganderbal via Ambulance	03	2.1 %
Referred from SKIMS MC Bemina via Ambulance	02	1.3%
Total	146	100.00%

Table 5: Outcome of Shri Amarnathji Yatri Patients

Treatment	Frequency	Percentage
Discharged after improvement	137	94%
Expired	09	6%
Total	146	100.00%

DISCUSSION

The studies have highlighted the fact that poorly acclimatized people from the plains are at high risk of developing various manifestations of high altitude illness during the holy pilgrimage to the “Amarnath Cave Shrine”. But there are still gaps in comprehending Acute Coronary Syndrome (ACS) in Amarnath Pilgrims. The suboptimal in hospital outcomes among pilgrim patients may be attributed to the severe physical and emotional strain, as well as delays in seeking medical assistance and undergoing timely revascularization. There is a necessity for customized healthcare approaches to tackle the particular obstacles faced by Amarnath pilgrims in averting and managing ACS during their pilgrimage.^[3,4]

Yatoo et al revealed that in the year 2015, Out of 61 patients received at SKIMS, 33 (54.10%) were having minor ailments and were seen on OPD basis,

28 (45.91%) were admitted. 21(75%) admitted were males. Patients received at SKIMS were in the range from 21- 72 years. 12(42%) were from Central and Eastern part of India. At the time of arrival 5 (17.29%) were Acute Myocardial Infarction followed by 4 (14.29%) High Altitude Cerebellar Edema, 4 (14.29%) Road Traffic Accident and 4 (14.29%) Fall from Height. Out of 28 admitted patients 12 (42.9%) patients improved, 6(21.4%) recovered, 8(28.6%) were discharged on request, 1 (3.6%) was referred and 1 (3.6%) expired,^[5]

Another study carried out by yatoo et al in 2017 revealed that Out of 97 patients received at SKIMS, 54(55.67%) were discharged on card, 43(44.32%) were admitted. 32(74.41%) admitted were males at the time of arrival 14(32.5%) were Road traffic Accidents followed by 7 patients (16.27%) who were Acute Myocardial Infarction. Out of 43 admitted patients 36 (83.7%) patients improved,

1(2.32%) were discharged on request, 1(2.32%) was referred and 5(11.62%) expired,^[6]

Comparing the results of 2015 and 2017 with the current study, SKIMS at present received 146 Shri Amarnathji yatri patients out of which 105 (72%) were males and 41(28%) females. The commonest age group was 51-60 yrs which constituted 31% of patients and the most common location was North India 47.2%. The current study showed that the most common diagnosis among shri Amarnathji patients was HAPE (high Altitude pulmonary edema, 60 cases, 41%) followed by patients with cardiac diseases (14.3%). The most common referral mode was from Ambulance (94%) followed by chopper 6%. Out of 146 patients admitted 137 (94%) were discharged after improvement and 9(6%) were expired.

The current study showed the number of patients who were subjected to cardiac intervention procedures. Out of total 146 patients received, 21 (14.3%) were having cardiac symptoms and among those 21 patients, ten,^[10] had to undergo interventional procedures. The stents were placed in 08 patients and dual chamber pacemaker in 02 patients. The current study also revealed cost expenditure viz a viz drugs and equipment's which were utilized for the management of shri Amarnathji yatri's at SKIMS while previous studies didn't not mention about cardiac intervention procedures and cost of drugs & equipment's.

CONCLUSION

The present study shows that two groups of patients dominate; one with high altitude pulmonary edema and another with cardiac disease having acute

coronary syndrome (ACS). It was seen that HAPE and ACS cases were handled well at the base camp. The no. of referred patients had decreased significantly in present study which may be attributed to better pre yatra health checkup and up gradation of health care facilities enroute Amarnath cave. Some cases were transported after a bit delay due to non-availability of chopper or bad weather conditions which needs to be addressed in future. More choppers and critical care ambulances needs to be pressed into the service. There is a need of having both portable and fixed oxygen supplies at all health centres established along the Yatra route. The Pre Yatra Medical Check-up of Shri Amarnathji Yatri's needs to be overlooked comprehensively probably by a designated board or a committee to prevent the entry of pilgrims with comorbidities.

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