General surgical problems encountered in the Hajj pilgrims

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ABSTRACT

Objective: The study was conducted to evaluate the pattern of general surgical admissions for future planning of staff, cost and other needs of these hospitals.

Methods: The study was conducted in 2 major hospitals in the Holy Shrine in 2 consecutive Hajj years 1423, 1424 (2003, 2004). All general surgical admissions, except those who died in the emergency room or were received dead, were included in the study.

Results: A total of 177 patients were admitted in both hospitals in 2 Hajj seasons. There were 139 males and 38 females with mean age of 52.7 years. Acute appendicitis and diabetic foot were the most common cause of admissions. Patients who received operative treatment totalled 87 (49.1%) and 69 (39%) were managed conservatively, while 20 (11.3%) left against medical advice. One patient was referred to higher center immediately after admission.

Conclusion: The pilgrims are a peculiar class of patients. They should receive the best possible care but keeping in view their special needs. Furthermore, this study will help in future organization of such facilities.

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Hajj (pilgrimage) is a unique occasion for Muslims, which involves the biggest gathering of human beings on earth, where over 2 million Muslims from all around the globe gather in the Holy Shrine (Al-Mashaer) to perform the most sacred duty of Islam. Hajj is performed in Makkah and Al–Mashaer (which includes Mina and Arafat), Kingdom of Saudi Arabia (KSA), from the 8-13th day of Dhul-Hijjah, the 12th month of the lunar Islamic calendar.

The medical literature is lacking this aspect, as most of available reports regarding the annual Muslims Hajj pilgrimage to the Holy city of Makkah and Al-Mashaer are concentrated on weather (heat stroke and exhaustion)[1-3] and infective (meningitis)[4-5] or sanitation related (diarrheal)[6,7] problems. To the best of our knowledge, this is the first report to evaluate the general surgical problems in Al-Mashaer area during this special annual religious occasion. The only previous such report is from Al Medinah Al Munawarah,[8] which is in no way comparable to this report as the gathering is not as concentrated over a short span of time as in Al-Mashaer area and furthermore it is 18 years old, the number of pilgrimage has increased tremendously over these years. The present study is undertaken to highlight the common surgical problems encountered during Hajj season in Al-Mashaer area, which will help in future planning, and to provide the best management facilities to our distinguished guests while performing the most scared duty of Islam.

Methods. The prospective study was conducted in 2 major hospitals (Mina General Hospital and Arafat General Hospital) of Al-Mashaer area out of the 7 hospitals in the Holy shrine, over 2

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Table 1 - General surgical admissions during Hajj year 1423, 1424, N=177.

Diagnosis	1423		1424		Grand Total
	Mina	Arafat	Mina	Arafat	
Diabetic foot	10	5	11	3	**29**
Acute appendicitis	9	3	11	2	**25**
Hernias					
Inguinal	3	2	3	3	**11**
Paraumbilical	2	1	0	0	**3**
Femoral	0	0	1	0	**1**
Traumatic injuries	5	3	7	3	**18**
Blunt abdominal trauma	2	0	3	1	**6**
Chest trauma	5	2	8	2	**17**
Acute cholecystitis	2	1	3	0	**6**
Acute pancreatitis	2	0	2	0	**4**
Abscess					
Thyroid	0	0	1	0	**1**
Hand	2	0	1	0	**3**
Inguinal	1	0	2	1	**4**
Perianal	3	1	3	0	**7**
Intestinal obstruction	1	1	0	0	**2**
Prolapsed piles	2	1	0	0	**3**
Non-specific abdominal pain	3	2	4	2	**11**
Burns	2	1	3	1	**7**
Foreign body foot	1	2	0	0	**3**
Infected bed sore	1	1	2	0	**4**
Diverticulitis	0	0	2	0	**2**
Peritonitis	0	0	1	0	**1**
GIT bleeding					
Upper	1	0	2	1	**4**
Lower	0	0	1	0	**1**
Cellulitis leg	0	0	2	1	**3**
Total	**57**	**26**	**74**	**20**	**177**

GIT - gastro intestinal tract

Table 2 - Geographical distribution of patients, N=177.

Nationality	Patients	
	n	(%)
Saudi	18	(10.2)
Arabs	58	(32.8)
Indo - Pak	49	(27.7)
Africans	25	(14.1)
Far East	18	(10.2)
Europe	5	(2.8)
Central Asia	4	(2.2)

Table 3 - Management of patients, N=177.

Operation performed	1423		1424		Grand Total
	Mina	Arafat	Mina	Arafat	
Appendectomy	8	1	11	1	**21**
Hernia repair	2	1	3	1	**7**
Exploratory laparotomy	0	0	2	0	**2**
Amputations					
Toes	2	1	3	1	**7**
Below knee	1	0	1	0	**2**
Intercostal chest tube intubation	2	0	6	1	**9**
Debridements	10	3	9	2	**24**
Incision drainage of abscess	4	2	6	1	**13**
Removal of foreign body foot	1	1	0	0	**2**
Total operations	**30**	**9**	**41**	**7**	**87**
Conservative management	21	12	29	7	**69**
Refused for treatment	5	5	4	6	**20**
Total	**56**	**26**	**74**	**20**	**176***

*One patient referred to higher center immediately after admission.

consecutive Hajj seasons 1423 and 1424 (year 2003 and 2004). These hospitals work exclusively during hajj days. Arafat General Hospital work for 24 hours on the 9th Dhul-Hijjah and Mina General Hospital from 8-13th Dhul-Hijjah. Both of these hospitals are fully equipped including state of art intensive care units to cater for the emergent treatment and as short stay facilities. The patients requiring tertiary care services or long term hospitalization are shifted to other hospitals in Makkah or in Jeddah, KSA.

All surgical admission during these days were included in the study. Each patient was followed until discharge, transfer to other hospital or announced dead. Patients with minor surgical problems and who received emergency treatment and were discharged from emergency or received dead or died in the emergency room before admission was excluded from the study. The outcome of these patients was determined on short term basis as mandated by the working system of these hospitals; quick disposal is required to vacate beds for new cases and to be ready for potential disaster.

Results. A total number of 792 patients were admitted in the 2 hospitals during 2 consecutive Hajj seasons 1423, 1424 (2003, 2004), out of which 177 (22.3%) were general surgical admissions. The detailed break-up of these admissions are shown in **Table 1**. Among the general surgical patients males were 139 (78.5%) and females 38 (21.5%), with male to female ratio of 3.6:1. The age ranged of these patients was 6–80 years with mean age of 52.7 years but the majority (41% above the age of 60) of them was in the old age group. The Arab nationals (32.8%) predominated in number followed by Indo-Pak (27.7%) region; their overall geographical distribution is shown in **Table 2** Total number of operations performed in both hospitals in 2

consecutive Hajj seasons was 87 (49.1), out which 71 were in Mina General Hospital and 16 (9%) in Arafat General Hospital. While, 69 (39%) patient were treated conservatively, one patient was referred to higher center after initial resuscitation and 20 (11.3%) patients refused complete management and left against medical advice, the percentage of such patients were much higher (24%) at Arafat as compared to Mina (6.9%). The complete details of the management are given in **Table 3**.

Discussion. The Kingdom of Saudi Arabia is only one of its kind in the Islamic world, being the host for organizing the Hajj, hence, comes across the extraordinary emeses of people. The provision of proper health care facilities to these guest's of God is our highest priority and moral obligation. The present study is part of our commitment to evaluate the common surgical problems encountered by the pilgrims, which will help in future planning such as total staffing, facilities and cost required to provide them with proper surgical care.

The present study provides us the pattern of general surgical admissions encountered in Al-Mashaer area. Mainly, we came across of 2 categories of patients, which was either acute surgical emergencies or due to precipitation of preexisting disease. The most common acute surgical emergency was acute appendicitis followed by traumatic injuries.[5] Unfortunately, we do not have any such previous study this area for comparison, but this was observed in both Hajj season, which validates this finding. There is nothing much we can do to prevent this group of diseases. The diabetic foot and obstructed hernias are the most common among the other category, which is most liable to get worsened due physical exertion and exposure to injuries in addition to non-adherence to treatment in busy schedule of Hajj. This type of diseases if not totally preventable but can be reduced by proper planning, such as asking the native countries to screen pilgrims and providing them with proper advice like foot care for diabetics or treat the treatable diseases like fixation of hernia.[8] This will not only reduce the work load but in the best interest of pilgrims that they can perform their most sacred duty with piece of mind.

The results of this study show a very high (39%) incidence of conservative management and self discharge (11.3%) against medical advice,[8] which is quite different from the usual circumstances. This is due to the very high spiritual derive, where nobody wants to loose his life time dream at any cost. Authors also feels that one has to give due consideration to this fact and surgery should only be performed when it is life threatening or extremely mandatory especially on 8th and 9th Dhul-Hijjah. Language barrier was another problem observed is this study, which could be solved by deployment of multinational staff and involvement of concerned medical missions of their native countries.

Certainly, the nil mortality and complications significantly undermine the sanity of our study, but the reason for this is that present study looked only in short-term outcome due the working pattern of these hospitals (Arafat, one day and Mina General Hospital 5 days).[9] Almost all our patients were either discharged very early to complete their religious rituals or transferred to other facilities if patients required long stay or to vacate beds for disaster. Therefore, patients can not be followed to have a proper record of morbidity and mortality.

Hence, we conclude that this is first study, which gives us the pattern of surgical admissions in Al-Mashaer area which will help in future planning and provide the best medical care to pilgrims. The pilgrims represent unique type of patients, while planning their treatment due consideration should be given to their religious objectives but without endangering their life.

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