Early Postoperative Acute Abdominal Complications

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ABSTRACT

Background: The post-operative acute abdominal complication is one of the most difficult clinical problems facing the surgeon, and it represents a unique challenge for him not only because of the difficulty in making a precise diagnosis but also in the decision for further management .

Objective: discuss the post-operative acute abdominal complications requiring re-intervention

Type of the study: Cross sectional study.

Methods : Patients with early post-operative Acute Abdominal complications (within 30 days from the initial operation) who required re-intervention were studied prospectively

Results :The study included 82 patients 47 of them were females, their age ranging 7-87,Different types of the initial operation were reported,51 % of them were emergency operations.

Exploration for Trauma was the most frequent initial operation 28%,followed by Biliary Surgery in 25.6%

The most common cause for postoperative acute abdominal complications was intraabdominal infections and /or collections in 68.4% of patients

Mortality was 10%, 50% of them were in the intraabdominal infection group

24.3% of patients required more than one re intervention

Conclusion : Acute abdominal complications in the early post-operative period presents a problem of special concern not only because of the difficulty in the detection of acute post-operative complications within the abdomen but also in making precise decision to separate those complications from a new condition unrelated to the operation .

Keywords: Postoperative, Acute Complications, Re intervention

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Post-operative acute abdominal complications are of the most difficult clinical problems facing the surgeon[1] and represent a unique challenge for him ,not only because of the difficulty in making a precise diagnosis[2],but also in the decision "whether or not to operate" again on a patient has been just completed his operation with apparently satisfactory recovery [3]. Typically, the symptoms are of acute onset[1,3,4,5] & abdominal pain is almost always a prominent feature . Symptoms are attributed to normal pain that follows laparotomy[3], or may be attributed to paralytic ileus[1], and nausea, abdominal pain, distension & absence of flatus or bowel movement are frequently normal squelae of abdominal surgery[6]. Physical examination of the post-operative patient is fraught with uncertainty because the principal physical findings suggestive of acute problems (tenderness and rigidity) are normally present due to pain of the incision & peritoneal irritation that accompanies surgical manipulation of the intra-abdominal structures[5] The current study was conducted aiming to discuss the early post-operative acute abdominal complications requiring re-intervention in regard to clinical presentation, diagnosis, and outcome of surgical treatment.

Patients and method: Patients with early post-operative acute abdominal complications (within 30 days from the initial operation) were studied prospectively from 23/10/2009 to 20/10/2013. The study included 82 patients. the cases were analyzed by direct interview with patients ,review of their records ,laboratory investigations ,radiological examinations ,and reports of the initial operations if available. The data were verified by direct communication with the attending surgeons. Patients were followed up while they were in hospital , we did not study patients treated conservatively (without intervention)or those discharged on their responsibility.

Initial operation :the primary or the original operation followed by these complications

Re-intervention :Laparotomy or percutaneous drainage procedure done as part of the treatment of the acute complication that developed within 30 days after the initial operation

Results: The study included 82 patients ,47 of them were females, their age ranging 7-87 y. Different types of the initial operation were reported,51 % of them were emergency operations.

Treatment was generally by:

urgent re-intervention after resuscitation or after a short period of conservative treatment, then dealing accordingly and this re intervention was in the form of :

Laparotomy in **51% of patients and**

Percutaneous drainage of intraabdominal collections under ultrasonic guide in the remainder ***49%*** of patients

Mortality was 10%, 50 % of them were in the intraabdominal infection group and the highest MR (per cause) was in the ischemic bowel group. 14 patients

required more than one percutaneous drainage procedures and 6 required more than one relaparotomy

Table 1 age and sex distribution

Age groups	males	Females	Total
< 9	3	3	6
10--19	6	3	9
20--29	5	9	14
30--39	**9**	**10**	**19**
40--49	5	8	13
50--59	2	9	11
60--69	3	5	8
> 70	2	0	2
Total	**35**	**47**	**82**

Table 2 Distribution of cases according to the primary operation or intervention

Primary Operation or Intervention	Emergency	Elective	Total	% of total
Exploration for Trauma	23	0	23	28
Biliary Surgery	0	21	21	25.6
Exploration for Acute Abdomen(NonTraumatic)	13	0	13	16
Gynae & Obstetric operations	5	3	8	9.8
Hydatid Cyst Surgery	0	4	4	4.9
Splenectomy*	0	3	3	3.7
Colonic Surgery	0	3	3	3.7
Urological Operations	0	3	3	3.7
Upper GIT surgery	0	2	2	2.4
Inguinal hernia operation	0	1	1	1.2
Drainage of intraabdominal abscess	1	0	1	1.2
Total	**42**	**40**	**82**	**100**

Table 3 Causes of pos op acute abdominal complication and their initial reintervention

Causes of post operative Acute abd Complication	Initial Re Laparotomy	Initial Percutaneous drainage	Total No.	%
Intra-abdominal infection &/or Collection	18	38	56	68.4
Intestinal obstruction	10	0	10	12.2
Abdominal wound Dehiscence	7	0	7	8.5
Bleeding	4	1	5	6
Ischemic Bowel	3	1	4	4.9
Total	**42**	**40**	**82**	**100**

Table 4 Cases with more than one reoperation

Initial operation	Cases No.	Cases %	Reason for reoperation 1st reoperation	2nd reoperation
Exploration for trauma	2	33.30 %	Intestinal obstruction	Recurrent obstruction
			Intestinal obstruction	Leaking anastomosis
Upper GIT Surgery	2	33.30 %	IAI	Persisting IAI
			IAI	Persisting IAI
Appendicectomy	1	16.70 %	Intestinal obstruction	IAI-Bowel perforation
Exploration for acute abdomen	1	16.70 %	Intestinal obstruction	IAI-Bowel perforation
		100.00 %		

Table-5- Death according to Cause of post operative acute abdominal complication

Cause of Postop Acute complication	Patients No.	Death No.	Death Per Cause	% of death from total death	% from total No of cases
Intra-abdominal infection &/or collection	56	5	9%	62 %	6.1 %
Intestinal obstruction	10	1	10%	12,5 %	1.2 %
Wound Dehiscence	7	1	14.30%	12,5 %	1.2 %
Ischemic bowel	4	1	25%	12,5 %	1.2 %
Bleeding	5	0	0.00%	0.00%	0.0 %
Total	**82**	**8**		**100 %**	**9.7 %**

Table 6 Death, causes and types of intervention

Case No.	Age	Initial operation	Emergency/ Elective	Cause of 1st re-intervention	Cause of 2nd re-intervention	Cause of death
1	6	Exploration for trauma	Emergency	Intraabdominal infection		Persisting infection
2	7	ERCP	Elective	Bile leak		Septic complication
3	35	Hysterectomy	Emergency	Intraabdominal infection		Pulmonary embolism
4	40	Total cystectomy for CA bladder	Elective	Dehiscence		Septic complication
5	45	Small bowel resection for SMI	Elective	Progression of bowel ischemia		Septic complication-dead bowel
6	46	Total gastrectomy for CA stomach	Elective	Intraabdominal infection	Persisting IAI	Septic complication-Persisting infection
7	52	Hysterectomy	Elective	Intestinal obstruction		Septic complication-dead bowel
8	87	Operation for bleeding DU	Emergency	Intraabdominal infection	Persisting IAI	Septic complication

Discussion: Acute abdominal complication in the early post-operative period (30 days after the initial operation[6]) presents a problem of special concern not only because of the difficulty in the detection of acute post-operative complications within the abdomen but also in making precise decision to separate those complications from a new condition unrelated to the operation [2] .The literature on re-interventional abdominal surgery is confusing, the incidence and mortality rate are greatly affected by the type of surgery reported [7,8].Like many other studies [9,10,11,12] ,we reported more emergency initial operation,

Also , we found that exploration for trauma represents the most frequent initial operation (28%) followed by biliary surgery(25.6%), exploration for non traumatic acute abdomen (16%)and Gynecology and Obstetric operations(9.8%) .A study done by Harbrecht et. al. [9] in which there were few operations for trauma concluded that early urgent re-interventions were commonly after colon, gastric, and pancreas operations followed by vascular, appendix, and small bowel. Another study done by Krause showed that the most frequent primary operation was gastrointestinal surgery [7] . but our results were nearly similar to that of N, S. Jabbo & A.Z,Mushettet study [10] , This is explained by the fact that the study done in a hospital receives a large number of trauma patients and had a busy surgical casualty in addition to well specialized Digestive surgery unit and so that the types of initial operations would be affected accordingly.

Considering the underlying causes of these complications in our study ,the intra abdominal infection and/or collections was the most frequent cause (68.4%) ,followed by Intestinal obstruction (12.2%) and Bleeding in 6% of cases ,nearly similar Maher & Keith[13] reported, Gastrointestinal leakage ,Bleeding and Intestinal obstruction as the major causes of these complications

Treatment was generally by urgent re-intervention after resuscitation or after a short period of conservative treatment, then dealing accordingly, Which was by laparotomy in 51% and by percutaneous drainage of intraabdominal collections under ultrasonic guide in 49% of patient and this was the sole treatment in 70 % of them and in the remainder it was helpful to obviate the critical condition and subject the patient to the operation in an optimal condition.

Percutaneous abscess drainage (PAD) can help stabilize critically ill patients by reducing the "toxic load" and, perhaps, improving the outcome of necessary surgical procedures,
Second, PAD can improve patient management by changing a 2-step surgical procedure into a 1-step procedure [14,15,16,17] .
Mortality in our study was 10%,% while it was 40% and 48% in Krause [7] and Harbrecht *et. al.* [9] respectively. This is because more trauma patients were included in our study and possible explanation for improved survival in trauma patients is their young age and the fact that their original operation, despite contamination, has been performed before significant peritoneal contamination had occurred [18].

Conclusion

Detection of acute post-operative complications within the abdomen is a unique challenge for the surgeon because of the difficulty in making a precise diagnosis, and knowledge and experience of the clinician is valuable in the management of these problems.

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