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Orijinal çalışma / Original study

EXPLORATORY LAPAROTOMY UNDER LOCAL ANAESTHESIA; OUR EXPERIENCE IN A TERTIARY CARE HOSPITAL IN EASTERN INDIA

Lokal anestezi altında tanısal laparotomi; Doğu Hindistandaki üçüncü basamak bir hastanedeki deneyimimiz

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ABSTRACT

In our hospital everyday we use to do 2 to 3 emergency exploratory laparotomy. General anaesthesia (GA) is needed for these cases. But sometimes it so happens that GA can not be given due to patient's condition. We got 21 such patients in whom we used local anaesthesia (LA). Among this 21 patients one patient died, one has got burst abdomen and two had wound infection. Among the 20 survivors 5 (25%) patients were discharged after 10th post operative day and rest 15 were discharged by 7th post operative day.

Key words: Acute abdomen, exploratory laparotomy, local anaesthesia.

ÖZET

Hastanemizde hergün 2-3 acil tanısal laparotomi ameliyatı yapılır. Bu tür vakalar için sıklıkla genel anestezi (GA) gereklidir. Bazı durumlarda hastanın durumu nedeniyle GA verilemez. Bu şekilde 21 hastada lokal anestezi (LA) verilmek zorunda kalındı. Bu hastalardan bir tanesi öldü, bir hastada karında distansiyon ve açılma, iki hastada yara enfeksiyonu gelişti. Yaşayan 20 hastadan 5'i (%25) ameliyat sonrası 10. günde, kalan 15 hasta ise 7. günde taburcu edildi.

Anahtar kelimeler: Akut karın, tanısal laparotomi, local anestezi.

INTRODUCTION

Exploratory laparotomy is a method of abdominal exploration, a diagnostic tool that allows physiccians to examine the abdominal organs. The procedure may be recommended for a patient who has abdominal pain of unknown origin or who has sustained an injury to the abdomen. Injuries may occur as a result of blunt trauma (e.g., road traffic accident) or penetrating trauma (e.g., stab or gunshot wound). Because of the nature of the abdominal organs, there is a high risk of infection if organs rupture or are perforated. Exploratory laparotomy is used to determine the source of pain or the extent of injury and perform repairs if needed. General anaesthesia (GA) is needed for these cases.

Local anesthesia (LA) is any technique to render part of the body insensitive to pain without affecting consciousness. It allows patients to undergo surgical and dental procedures with reduced pain and

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distress. In many situations, such as cesarean section, it is safer and therefore superior to general anesthesia. It is also used for relief of non-surgical pain and to enable diagnosis of the cause of some chronic pain conditions.

Sometimes it may so happen that patients who come to emergency needing urgent laparotomy are of so bad general condition that they can not be put under general anaesthesia. In these situations we have to do the operation under local anaesthesia. Aims and objecttive;

1. To do exploratory laparotomy under LA where GA can not be given.
2. To see the outcome in these patients.
3. To compare between the effects of GA and LA.

MATERIALS AND METHODS

It is a retrospective study on 21(n = 21) patients who required emergency exploratory laparotomy under local aneasthesia during the period of January 2008 to December 2010. We find out the male, female ratio and also the age distribution of the patients (divided into two categories, whether >50 years or <50 years). We measure blood pressure, pulse rate, temperature of all these patients at the time of admission and just at the start of operation. We also send blood to measure the total and differential count of WBC and random blood sugar at the time of presentation.

Then we compare these parameters with the postoperative outcome in these patients. Patients are watched for any post operative wound infection and burst abdomen. We also noted the date of discharge of these patients (whether before 10 days or after 10 days) from the day of operation. Lastly we also tried to explain the benefits of local anesthesia in these patients.

RESULTS

Among the 21 patients we had 4 patients with appendicular perforation, 4 with duodenal perforation, 5 with ileal perforation, 6 with acute intestinal obstruction and rest 2 with pelvic abscess (Table 1, Figure 1 and 2).

Table 1: Patient distribution according to disease.

Disease	No (n = 21)	%
Appendicular perforation	4	19.04
Duodenal perforation	4	19.04
Ileal perforation	5	23.83
Acute intestinal obstruction	6	28.57
Pelvic abscess	2	9.52

So, we have two third of our patients above 50 years of age and rest below 50 years of age. Among the 20 survivors 5 (25%) patients were discharged after 10th post operative day and rest 15 were discharged by 7th post operative day. (Table 2-4).

Table 2: Male, female ratio.

Sex	No (n = 21)	%
Male	15	71.43
Female	6	28.57

Table 3: Age distribution.

Age	No (n =21)	%
>50 years	14	66.67
<50 years	7	33.33

Table 4: Patients with co morbidities like diabetes and hypertension.

Comorbidities	No (n = 21)	%
Hypertension	6	28.57
Diabetes/ High random blood sugar	4	19.04
Both	2	9.52

We have 2 patients who developed wound infection. Both of them were diabetic. We have one patient with burst abdomen, who was both diabetic and hypertensive. Among these 21 patients we loose only one at the 3rd post operative day who was a 84 years old male with diabetes and hypertension, was operated for acute intestinal obstruction. So we have 75% of our alive postoperative patients who were discharged before 10 days from operation. So it is found that patients of age >50 years or with comorbidities had longer hospital stay (Table 5-7).

Table 5: Patients who discharged before 10 days of operation with after 10 days of opration.

Date of discharge (post op day)	No (n = 20)	%
<10	15	75
>=10	5	25

Table 6: Age distribution of the patient who discharged after 10th post operative day.

Age	No (n = 5)	%
<50 years	1	20
>50 years	4	80

Table 7: Comorbidities of the patient who discharged after 10th post operative day.

Comorbidities	No (n = 5)	%
Hypertension	2	40
Diabetes	2	40
Both	1	20

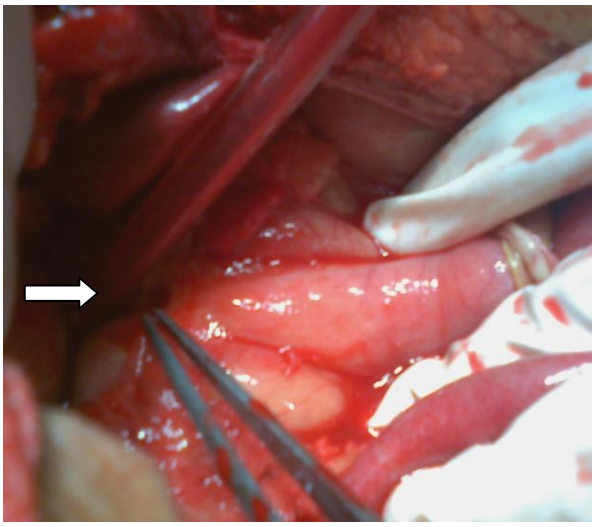

Figure1: Duodenal perforation

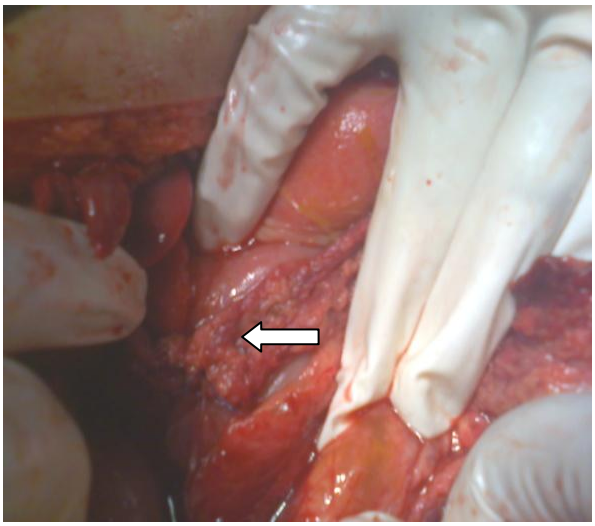

Figure 2: Omental patch.

DISCUSSION

In our day to day emergency practice we found many patients who require exploratory laparotomy. Usually the operation is done under GA, but sometimes it becomes difficult to put the patient under GA due to bad general condition. Exploring the abdominal cavity under local anaesthesia is an excellent method for establishing a diagnosis in doubtful abdominal pain presentation. This technically easy procedure may avoid GA related complications.[1] Laparotomy may be performed to determine the cause of a patient's symptoms or to establish the extent of a disease. Good aneasthesia is needed for proper exploration and definitive procedures.[2]

In California during a seven year period, 370 penetrating wounds of the abdomen were explored surgically. In retrospect, one hundred of these wounds (27 per cent) did not enter the peritoneal cavity. Eighteen per cent of these hundred patients manifested significant intraabdominal symptoms. All hundred patients were operated on with no mortality or serious morbidity. An additional hundred patients with penetration of the parietal peritoneum and serious or minor injury were evaluated with regard to their preoperative physical findings and stability of vital signs. Eighteen of these patients who had no abdominal findings were found to have significant injuries at laparotomy. Prompt operative evaluation of the patient with penetrating wounds of the abdomen is important in decreasing the morbidity and mortality secondary to perforation of vital structures, and we believe that this can be done with minimal risk.[3]

Patients with poor general conditions are at greater difficulty to revert back from GA. In these cases LA can be used and outcome is almost same with less anaesthetic hazards and better cost benefit.[4]

There is evidence of repair of duodenal and ileal perforation under local anaesthesia.[5] There are several factors that the anesthesia provider should consider when deciding on which anesthetic techniques to present to the patient. A careful review of the patient's history will yield valuable information, enabling the anesthesia provider to make an informed decision on the anesthetic technique. It is acceptable to present what may be the best choice to the patient. It is important to explain why, based on comorbidities. Local anesthesia can be best provided in emergency operation in elderly patients with poor general conditions and comorbidities.[6] With local anesthesia, the patients can avoid the side effects of general anesthesia and can go home shortly after the procedure.[7]

In conclusion; though emergency exploratory laparotomy should be done under GA, LA can be applied with nearly equal efficacy and outcome in cases where GA can not be used. Surgeon may find it difficult to close the abdomen, but there will be less chance of anaesthetic hazards and leeser noumber of days in hospital for the patient.

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