

Fig. 3: Photographic picture for the same patient after spleorrhugy showed interrupted non-absorbable sutures.

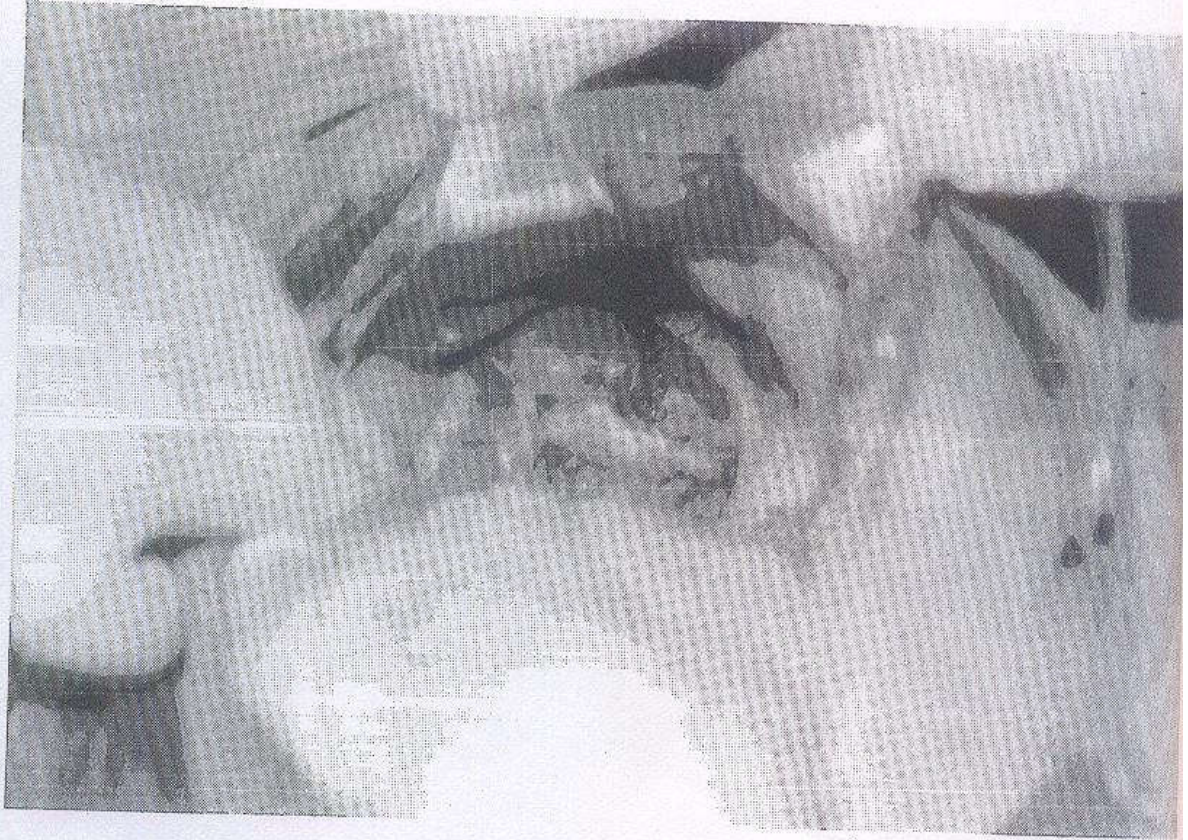


Fig. 4: Photographic picture for the same child showed 2 pieces of Gelfoam placed at visceral edge of the tear after splenonhaghy.

DISCUSSION

Concerning the mechanism of injury, in our locality, we observed that motor car accidents including bicycle accidents constitute "30 %" which is higher than results reported in European countries. Sjoval and Hirsch 1997 reported that motor car accidents causing blunt abdominal trauma in children constitute 8% of the total cases of blunt abdominal trauma. Safety belt laws and the extensive use of car safety seats in Sweden have proven to be effective and this explains the low percent in European countries [Sjoval and Hirsch, 1997] and [Morse et al, 1994].

In our locality, falling during animal riding in villages represented "20 %" where Sjoval and Hirsch, 1997 found that percentage was "11 %". This could be explained by increased number of farmers in Upper Egypt, who are riding the animals as a method of travel and using them in the fields. In our study, falling from height represented "50%" of the cases, this data agreed with data detected by Sjoval and Hirsch "1997". Concerning the age, age of most of our cases, 42 patients "70%" was ranged from 6-11 years, which is very high percentage. In the study of Thourani et al, 1998, they found that the age group from 6 to 11 years constitutes the highest percentage "42%". Regarding the sex, "70%" were boys and "30%" were girls. In the study of Thomas et al, "1997", they showed that males constitute "67.4%" of the total number of cases. Also Thourani et al, "1998" showed that boys and girls represent "62%" and "38%" respectively in pediatric trauma patients.

The safety of non-operative management of blunt abdominal trauma in children has been discussed in several reports. [Haller et al, 1994 and Morse et al, 1994]. Pachter et al, 1990 reported that over an 11- years study period, involving 193 patients, splenorrhaphy was the most common splenic salvage method (66 %). Currently, non-operative management of blunt splenic injuries has replaced splenorrhaphy as the most common method of splenic conservation. "Sixty-five percent" of all blunt splenic injuries can be managed with minimal transfusion, minimal morbidity or mortality, with a success rate of "98%" [Pachter et al, 1998].

Sjoval and Hirsch, 1997 found that non-operative management in pediatric splenic injuries was successful in 138 out of 145 cases "91.7 %". In our study, the conservative management of blunt splenic injuries was successful in nine out of twelve cases with success rate "75%". According to (AAST), Twelve cases were: 2 cases with splenic tear grade 2, one case grade 1, one case grade 3, 3 cases spleen haematoma

grade 1, 4 cases spleen haematoma grade 2 and one cases spleen haematoma grade 3.

In our study, resolution of intercapsular haematoma of the spleen was evident and proved by ultrasound examination in 7 out of 8 cases. One case had suffered from rupture of inter-capsular haematoma which necessitate exploration and splenectomy. Sjovall and Hirsch, 1997 found that rupture of intercapsular haematoma was rare phenomenon in children. Advantages of non-operative management included preservation of splenic immune function, reduction of postoperative complications and lower hospital stay. [Thomas et al, 1997].

In our study, the conservative management of hepatic injury was successful in 6 out of 8 cases [75% successful rate]. According to (AAST), the eight cases of hepatic trauma were: hepatic tear grade 2 in 2 cases, grade 1 in one case, haematoma grade 2 in 2 cases, haematoma grade 1 in one case and hepatic tear grade 3 in 2 cases. Karp et al, "1983" proved that non-operative management of hepatic injuries is successful in children. Sjovall and Hirsch, "1997" found that non-operative management of hepatic injuries was successful in 25 out of 29 child in retrospective study of blunt abdominal trauma in children. Non-operative management of hepatic injuries is more hazardous than that of splenic injuries, late bleeding, bile duct injury and serious infections in intracapsular haematoma have been reported. [Scorpio et al, 1994]. In our study, all cases of splenic and hepatic injuries in which the conservative management was successful, were isolated injuries to the spleen or to the liver. There was no other associated abdominal injury. Smith et al, 1992 reported a success rate of 93% with non-operative management using the criteria of age younger than age 55, haemodynamic stability, grade 3 or less by (AAST) criteria, plus absence of concomitant abdominal injuries. This study was done for cases of abdominal trauma in general not for children specifically. In our study, 13 children had suffered from intestinal perforation and were subjected to operative management. Simple closure of single perforation was done in 7 cases, resection anastomosis of small intestinal perforations in 4 cases and primary resection anastomosis of colonic injury with proximal colostomy in 2 cases.

CONCLUSION

- 1- The operative management of blunt abdominal trauma in children is documented in haemodynamically unstable patient and diagnostic haemoperitoneum or pneumoperitoneum by one of different modalities of investigation.

2- The non-operative management of blunt trauma in children is successful in cases of splenic injuries using the criteria of AAST [American Association for the Surgery of Trauma] in haemodynamic stability plus absence of concomitant abdominal injuries.

3- Non-operative management is successful in hepatic injuries but it is more liable for septic complications.

Advantages of conservative management in cases of splenic trauma include preservation of splenic immune function, reduction of postoperative complications and lower hospital stay and hospital costs.

We recommended operative management of gastrointestinal perforation once diagnosed.

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الإيجاز العربى

"دراسة نتائج تشخيص وعلاج إصابات البطن الغير حادة فى الأطفال"

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- تم إجراء هذا البحث لتقييم وسائل العلاج المختلفة لحالات إصابات البطن الغير حادة فى الأطفال مع إلقاء الضوء على العلاج غير الجراحى وتقييمه فى بعض من هذه الحالات .

- ولقد أجرى هذا البحث على ٦٠ طفل مصاب بإصابات مختلفة فى البطن نتيجة سقوط من أعلى أو أثر حادث سيارة أو إصابة من حيوان تتراوح أعمارهم من عام واحد حتى ١٤ عام. ٤٢ من الذكور و ١٨ من الإناث .

- وقد تم فحص كل المرضى " إكلينيكيًا " و تم فحصهم أيضا بجهاز الموجات فوق الصوتية على البطن وكذلك الأشعة العادية على البطن فى الوضع واقفا . وقد تم إجراء الفحص بالأشعة المقطعية على البطن فى ٨ حالات وتم أخذ عينة من سائل التجويف البريتونى للتشخيص فى ٥ حالات فقط .

- وقد تم إجراء العلاج الجراحى السريع عن طريق استكشاف البطن فى ٤٠ حالة (المجموعة الأولى) حيث كانت الأعراض والفحوص الطيبة المختلفة وحالة المريض العامة تستدعى ذلك بينما تم إجراء العلاج غير الجراحى فى ٢٠ حالة أخرى (المجموعة الثانية) حيث أن الأعراض والفحوص الطيبة المختلفة أقرت عدم ضرورة الجراحة الطارئة كما أن الحالة العامة للطفل المصاب كانت مطمئنة ومستقرة.

- وقد نجح العلاج غير الجراحى فى علاج إصابات الطحال فى ظروف معينة بنسبة ٧٥% حيث أنه تم إجراء استئصال للطحال فى حالتين وأخذ غرز فى قشرة الطحال فى حالة واحدة وذلك من مجموع ١٢ حالة من المجموعة الثانية . أما

حالات إصابات الكبد فقد كانت نسبة نجاح العلاج غير الجراحي هي ٧٥ % حيث أنه لم تتدخل جراحيا إلا في حالتين فقط من ثمانية حالات تعانى من إصابة بالكبد من المجموعة الثانية .

- وقد انتهى البحث إلى:

(١) أن العلاج الجراحي في حالات إصابات البطن الغير حادة إجراء ضرورى وسريع في الحالات الطارئة ولإنقاذ حياة الطفل .

(٢) أن العلاج غير الجراحي في هذه الحالات يمكن اتباعه في ظروف خاصة وتحت شروط معينة يمكن تلخيصها في الآتى :-

أ) أن يكون الطفل المصاب حالته العامة جيدة ومستقرة من حيث الضغط والنبض والدورة الدموية .

ب) أن تكون الإصابة في الطحال أو الكبد إصابة طفيفة من الدرجة الأولى أو الثانية أو الثالثة طبقا للجدول الأمريكى الخاص بإصابات الأعضاء الجراحية (AAST).

ج) أن تكون تلك الإصابة هي الإصابة الوحيدة ولا توجد إصابات أخرى داخل التجويف البريتونى .

د) ضرورة وضع الطفل المصاب تحت الملاحظة والمتابعة بالكشف الإكلينيكى والموجات فوق الصوتية لمدة ٧ أيام على الأقل .

- ومن هذا يمكن أن نستخلص أن العلاج غير الجراحي يمكن اتباعه في مثل هذه الحالات بنجاح ، وبذلك يمكن تجنب تعريض المصاب للجراحة والتخدير ومخاطرها خاصة في الأطفال .



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