SUTURE PLICATION OF PERFORATED DUODENAL ULCER

Gul Muhammad, Aurangzeb, Rashid Ahmad, Shahid Sultan
and Sajjad Ahmad

Abstract: Seventy-five cases of perforated duodenal ulcer were managed by suture plication alone. Perforated acute ulcers have a better ultimate outlook in terms, of mortality and morbidity as compared with perforated chronic ulcers. It is suggested that chronic duodenal ulcer cases should have definitive surgery at the time of perforation or soon after the recovery, whereas acute ulcers should be primarily managed by suture plication alone. Where dyspeptic symptoms persist for more than 3 months in acute ulcers after suture plication definitive surgery must be done at the earliest opportunity.

Introduction

Perforation constitutes one of the major complications of duodenal ulcer. Von Heberer first advocated the general use of immediate resection in these cases. Pierandozzi et al., demonstrated that good results can be attained in these cases by resorting to vagotomy and pyloroplasty. While simple closure of perforation remains the method of choice for many surgeons, there is an increasing emphasis in recent reports on performing definitive surgery to avoid late morbidity and mortality.

We present an analysis and evaluation of this problem based on our experience at our hospital.

Material and Methods

Seventy-five patients with surgically proven perforation of duodenal ulcer, admitted to and operated at the D.H.Q. Hospital Abbottabad during a 3 years' period (1984—1986) were considered in a retrospective study. There were sixty-five males and ten females, with a mean age of 50 years the range was from 21 to 70 years.

A history of duodenal ulcer symptoms of more than three months' duration was present only in 20 cases (26.6%). The remaining 55 cases had either no previous history of duodenal ulcer or had an ulcer dyspepsia of less than 3 months standing; based on the criteria of Taylor, these were labelled as acute duodenal ulcer perforation. The time lapse between onset of symptoms of perforation and admission to the hospital ranged from 24 hours to 2 weeks. Most of the patients who sought early admission had

From Ayub Medical College, Abbottabad
GUL MOHAMMAD, MBBS, FRCS, Dept. of Surgery
AURANGZEB, MBBS, FRCS, Dept. of Surgery
RASHID AHMED, MBBS, FRCS, Dept. of Surgery
SHAHID SULTAN, MBBS, and SAJAD AHMED, MBBS Dept. of Surgery

chronic duodenal ulcer and were aware of their ulcer problem.

On admission all patients were forbidden oral food intake, nasogastric suction and parenteral antibiotics were instituted and dehydration and electrolyte imbalance corrected by suitable infusion. Fifteen patients (20%) were in shock at the time of admission. An average time of 4 to 10 hours elapsed between admission and operation. Suture plication with an omental patch was done in all the cases as a matter of general surgical policy.

Ten patients (13.3%) died postoperatively. The percentage mortality related to various age groups is shown in Table 1. The figures include those patients who were moribund at the time of admission. The causes of death are shown in Table 2. Septicaemia and shock were the major killers.

Sixty-five surviving patients were followed up postoperatively. The follow-up period was 14 months.

Table 3 shows the patients clinical status following suture plication.

Table 1. — Mortality Related to Age

Age group	Total cases	Deaths	Percentage
21 to 40	25	2	8
41 to 70	50	8	16

Table *2*- Cause of Post-operative Deaths.

Septicaemia	5
Shock	3
Sub Phrenic abscess	1
Pulmonary embolism	1

Table 3. — Post-operative course of patients

	Total cases	Acute duodenal ulcer.	Chronic duodenal ulcer.
Patients operated	75	55	20
Deaths	10	7	3
Haemorrhage	—	—	—
Persistent severe symptoms	5	2	3 -
Re perforation	—	—	—

Discussion

A retrospective study reveals the results of surgery and follow-up care

but above all assists in patients selection for a certain type of surgery in addition to establishing clinical parameters to predict mortality and morbidity.

The mean age of patient at admission was 50 years, and 73.3% of patients had not experienced dyspeptic symptoms before the perforation. Patients already under medical treatment for duodenal ulcer, reported earlier for admission than those who were unaware of their ulcer problems. The undue delay in seeking admission, low general health, compromised cardiovascular system are some of the aggravating factors which might explain why 15 patients were in shock at the time of admission.

Suture plication alone as a routine policy in all cases of perforation excludes any bias of case selection in analyzing the outcome. The mortality rate of 13.3% is comparable to figures reported by Griffin (7.4%), if we also take into consideration the nutritional status and poor physical health of an average Pakistani patient. Inclusive of high risk patients these figures are far lower than that reported by Jordon et al. There is a greater mortality among the acute duodenal ulcer group and we feel confident that the 12.7% mortality rate in the acute ulcer perforation would have been lower if many of these patients had presented earlier. The contribution of shock as a cause of death is a matter of concern as out of 15 cases in shock at the time of admission, 3 died. Septicaemia alone accounted for 5 deaths out of 10. One patient died of entirely unrelated cause that, pulmonary embolism.

Suture plication alone had a better ultimate response in perforated acute duodenal ulcers, in which the pathological process of the ulcer may be considered at a low ebb; in this case we consider the event of perforation isolated. These considerations however, do not apply to the perforated chronic duodenal ulcer group.

The association of perforation with massive haemorrhage, a serious but rare complication may present in one of 3 ways (i) Both occurring simultaneously (ii) Haemorrhage following a recently sutured perforation and (iii) Perforation occurring during the medical treatment of a haemorrhage. We did not come across this complication in our series.

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