DETECTION, DIAGNOSIS AND PROPER MANAGEMENT OF COMPLICATIONS AFTER GASTROINTESTINAL SURGERY

ESSAY

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BY

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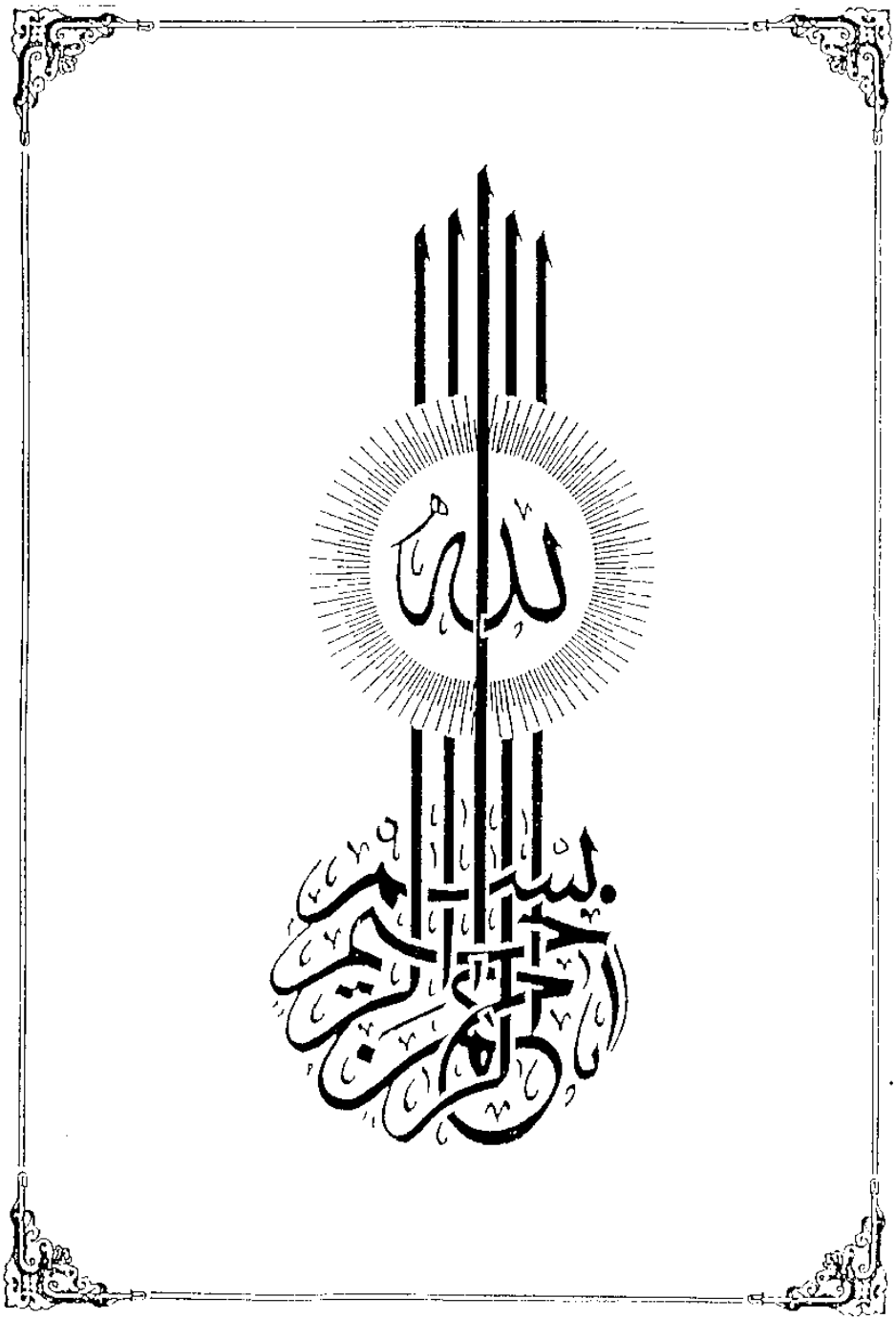

CONTENTS

PAGE

MANAGEMENT OF COMPLICATIONS AFTER GASTROINTESTINAL SURGERY

INTRODUCTION

Most operations are successful and the patient progress smoothly to complete convalescence and rehabilitation. However, complications develop in certain number of instances, this may be minor and easily treated so that recovery is not delayed, or they may be major and hospitalization may be prolonged. The incidence and severity of problems that arise after operations are influenced by many factors. Certain complications, may follow any major operation, but in addition each specific type of operation has its own special problems (Hardy, 1981).

Postoperative complications may result from the primary disease, the operation, or other unrelated factors. The usual clinical signs of disease are often blurred in the postoperative period and good postoperative care must include repeated evaluation of the patient. Prevention of complications should start in the postoperative period with a careful evaluation of the patient disease and risk factors (Pellegrini, 1988).

Schwartz (1989), reported that, surgical care must

encompass an appreciation and anticipation of postoperative complications which may result from the disease per se, errors of emission or errors of comission in technique.

As regarding the patient postoperatively, any deviation from the anticipated norm, for clinical detection and/or diagnostic findings should alert one to focus on complication of disease and/or operative procedure. Routine care of a patient following surgical treatment includes repeated evaluation of the vital signs i.e. pulse, temperature, blood pressure and respiration. The extent of pain in the region of the incision and generalized discomfort are assessed, the abdomen is auscultated for intestinal sounds, the haematocrite value and white cells count are measured at appropriate intervals to assess blood loss and continued infection respectively (Schwartz, 1969 .

Fever shortly after surgical procedure in a patient who was previously afebrile is generally related to chest complications while that of wound infection and leakage of an intestinal anastomosis or closure more frequently becomes evident on the fourth or seventh postoperative day. Hypotension in the postoperative period may be due to continued haemorrhage or the effect of depressive drugs which have been administered during the recovery period.

Hypotension later in the postoperative course in a patient with sepsis should alert one to the possibility of endotoxin shock. Wound dehiscence doesnot become manifest until the fifth postoperative day (Schwartz, 1989).

The postoperative complications can be classified into general complications which can occur after any surgical procedure and special complications which may occur after special surgical situations.

Here we are concerned mainly with the specific complications that may follow gastrointestinal operations which can be subdivided into :

- Complications of gastric surgery.
- Complications of small intestinal surgery.
- Complications of colorectal surgery.

The commonest early complications of operations upon the stomach is haemorrhage, either anastomotic or from residual ulcer or into the free peritoneal cavity from the spleen, or from unligated vessels. Bleeding from anastomosis can usually be expected to cease within few hours, but this is not always the case unfortunately, continued or recurrent bleeding after operation may require reoperation. The next most important complication of gastric

surgery is leakage from suture line, also failure of the stomach to empty represent a prominent problem (Mingot et al., 1985).

The commonest complications of small bowel surgery are disruption of the anastomosis with leakage and fistula formation or peritonitis though this is rare unless ischemia, infection or distension existed. Major small bowel fistulas are associated with mortality rate 20-30%. A special problem consists of high-volume and even explosive and salt depleting output from ileostomy. The most common causes of ileostomy diarrhea are recurrent inflammation of the residual bowel, partial small bowel obstruction and intraperitoneal sepsis. When these possible causes have been excluded, Hill et al. (1975) believe that the next important consideration to be the amount of ileum that was resected (Cited from Mingot, 1985).

The most sinister complication fo resection of large bowel is leakage at the suture line which introduce into the peritoneal cavity such a sinister and massive bacterial infection that death may result inspite of good drainage. Haemorrhage is not usually a problem after colon operations. Other complications include injury of the bladder, ureter, duodenum ..etc. Also a colostomy may be associated

with a various local complications. These involve necrosis of the colostomy itself, or its retraction or obstruction just beneath the skin due to improper technique (Cited from Mingot, 1985).

AIM OF THE WORK

The aim of this work is the early detection, diagnosis and proper management of postoperative complication and to insist on the importance of this subject in the modern surgical practice.

Also, it is very important to discover any post-operative complication in the very early beginning while being very minor to deal with and this allows better management with the net result for the patient, surgeon and the hospital.

COMPLICATIONS OF GASTRIC SURGERY

This is best illustrated through this table which shows the postoperative complications in 604 cases following gastric surgery.

- Deaths 37
- Haemorrhage 29
- Gastric retention 14
- Proximal loop syndrome 21
  - . Duodenal stump dehiscence (15)
  - . Subacute and chronic (6)
- Anastomotic leakage -
- Marked dumping and/or diarrhea 29
- Malnutrition (severe) 28
- Intraperitoneal infection 11
- Wound complications 78
  - . Infection and abscess (55)
  - . Evisceration (23)
- Jaundice 18
  - . Heamolytic and absorptive (14)
  - . Operative (4)
- Common bile duct injury 3
- Marginal ulceration 15
- Fistulas (other than duodenal) 10
  - . Jejunal (1)

. Pancreatic (2)

. Gastrocutaneous (5)

. Gastrocolic (2)

- Internal hernia	1
- Intuscessuption	1
- Pancreatitis	6
- Pulmonary complications	54
Total	362

(Hardy, 1981)

HAEMORRHAGE :

Gastrointestinal haemorrhage which occurs subsequent to a gastrointestinal anastomosis may become manifested postoperatively by haematemesis, melaena or most frequently the passage of bright blood via the nasogastric tube positioned in the stomach. Bleeding from the suture line is most commonly associated with gastric surgery. Bleeding from the suture line occurs either immediately after operation or on the first postoperative day, but a second minor peak has been noted between the 7th and 10th postoperative day (Schwartz, 1989).

A) Intraluminal bleeding :

The anastomosis is the most common site of haemorrhage in a patient who was not bleeding preoperatively. Pearce

et al. (1981), reported such postoperative complication in 14 of 406 cases (3.4%). In 10 patients the haemorrhage was believed to be due to technical failure to control vessels along the anastomosis at operation, 3 due to bleeding diathesis and in one due to cortisone therapy. The onset varried but it was in the day of operation in six patients.

In addition to bleeding from suture line and haemorrhagic diathesis, other important sources of early postoperative blood loss are an overlooked ulcer in the unresected portion of the stomach and an unresected duodenal ulcer (Phillips and Child, 1981).

Moody and McGreevy (1984), reported that intraluminal bleeding occurred in 5% of all postgastrectomy patients. One third bleed from the source that originally prompted operation, one third from an anastomotic line and one third bleed from unknown source.

B) Extraluminal bleeding :

Haemorrhage into the peritoneum may occur in association with many operations, but it is fairly common after gastric surgery. The splenic capsule might be torn due to traction or dissection along the greater curvature of

the stomach. Another important source of bleeding is the divided omentum if a large mass of it was ligated with a single ligature. Bleeding might also derive from the left or right gastric arteries or from the superior pancreaticoduodenal artery due to traction or dissection (Hardy, 1981).

Diagnosis :

Postoperative bleeding is heralded by signs of hypovolemia (oliguria, hypotension, tachycardia, respiratory distress), bloody nasogastric drainage, falling hematocrit, and much later, melena.

Endoscopy is usually the only diagnostic test that should be performed. Arteriography will localize the bleeding to the stomach but will not be able to differentiate between an operative problem (suture line bleeding, bleeding ulcer) and a nonoperative problem (oesophageal varices, gastritis), (Moody, 1984). Meanwhile, the diagnosis of extraluminal haemorrhage postoperatively could be difficult. It is not readily demonstrated by routine X-ray films of the abdomen but the diagnosis is based on the physical findings and the monitoring of vital signs, the patient's appearance, urine output and central venous pressure (Hardy, 1981).